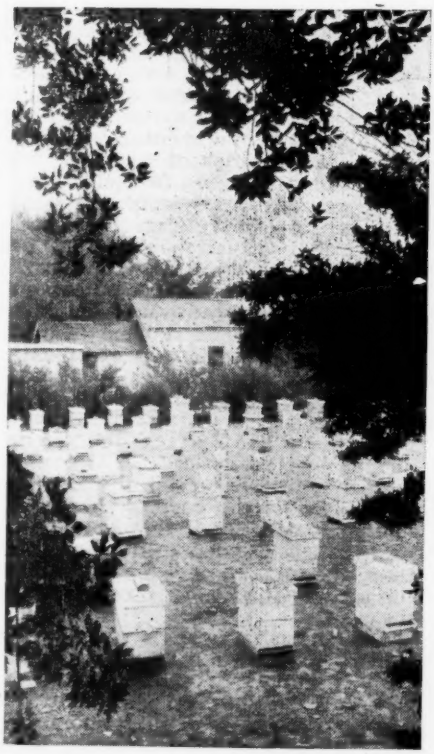
Gleanings in Bee Culture

January, 1946 Vol. 74, No. 1

Beekeeping *Does* Pay

By Arch P. Woodson



This well-managed apiary belonging to H. A. Danielson of Boone, Colo., has shown a good profit.

As I sit under the maple trees in our yard, scribbling these few things, the slanting rays of a late October sun fall across the white hives of our nearby backyard apiary, while the lazy indifferent droning of a few vagrant and venturesome bees remind me that their toil for this year is done. None of them, except their royal mother, will live to see another summer's sunshine.

Raising my eyes from my note book, I can see through the hazy distance the mighty slopes of the high Alleghenies clothed in all their majestic fall splendor. Frost comes early in the mountain country, and old Mother Nature has already been busy using her magic paint brush and the foliage is all the colors of the rainbow in its exquisite loveliness.

Last January, through the pages of Gleanings in my article entitled, "Does Beekeeping Pay?" I made the attempt to tell its readers a few of my experiences in backyard beekeeping and gave them a little peep at the way we did things in our own apiary. As a consequence, scores of letters came, some of them with thanks, others asking many questions pertaining to beekeeping and it's myriad details.

Beekeeping does pay. Down throughout the years that have slipped away all too quickly, this one thing stands out clearly in my mind. This year we started out with 15 hives in our backyard apiary. The late cold and rainy spring prevented an early build-up of the colonies,

Entered as second class mail matter at the Postoffice at Medina, Ohio. Published monthly. Subscription Price—1 year, $1.50; 2 years, $2.25; 3 years, $3.00. Foreign, 25c additional.

so when the little white Dutch clover began to bloom in May our outlook for a successful honey year was none too bright. Then the weather cleared and with the coming of yellow sweet clover our hives were booming with bees, and then in late June the white sweet clover came in and the picture then presented was all we could wish for.

We made a net surplus of 75 pounds per hive, and left honey for winter food. It was well we did this, as frost came early, cutting the fall flow down to half what we could usually expect, and sugar for feeding was virtually impossible to obtain. I am very much afraid that some of our friends who took a chance and gleaned too closely will lose their bees this winter from lack of stores.

How different are things in our apiary now, compared with the apiary my folks had when I was a boy! Foundation was something we had never heard of—most of the bees were in "gums" made from hollow trees, cut to two foot lengths, with a covering of rough boards, with cross-sticks for frames! My grandmother, born in old Holland, knew how to make the straw skeps of that country, and we had a few of those too.

Today, we have beautiful hives and frames, cut to fine furniture exactness, bee spaces to the thousandth of an inch, worker foundation of unbelievable purity and sweetness that prevents the rearing of too many drones, and for our surplus honey. Everything one can think of is at hand, things that have made beekeeping an undreamed of pleasure, to those of us who remember the days of long ago.

Black bees are almost gone into that limbo of forgotten things, and with their passing, European foulbrood is something most of us never think of now. With our better beekeeping methods and the information and instructions that are available through our schools and colleges, textbooks, and bee journals, together with the efforts that are being made towards breeding a race of bees highly resistant to AFB, the outlook for beekeeping is bright indeed.

Miracles have come out of the test tubes of the scientists, toiling night and day, all over the world, in their laboratories, and eventually this thing we all dread, called AFB, may be mastered and pass away in all good time. Perhaps, within the structure of those wonder drugs lies the answer to the conquering of this insidious spore, the bane of beekeeping. Perhaps at this very instant, some unknown Pasteur or Lister, peering into his test tube, is unravelling the answer! Who can say otherwise?

The beekeepers' year is just beginning. Summer and fall have passed on and now it's time to prepare for another year among the bees. Hives must be painted and repaired, new things fitted together, foundation purchased, and supers gone over.

The newcomer to our ancient art will find this a most excellent and acceptable time to purchase that new instruction book, subscribe to one or more bee journals, and visit around amongst his beekeeping friends, doing his level best to acquire all the information he possibly can from them. Then when the blossoms are hanging thick on the fruit trees, his new hives in readiness, and his bees and queens purchased this winter, arrive from the Southland—a new venture is born! Soon his comrades of the hive will be at work, bringing in their golden hoard of nature's sweets and a novice becomes a veteran beekeeper!

Yes, dear reader, beekeeping does pay, indeed it does. In our backyard apiary we have equipment and material which quite conservatively would be worth at least $500.00. None of this cost us a cent of extra money. Our bees paid for it all, with their labor. And hundreds of dollars have been ours which we never would have had, except that we are keepers of the bees!

Beekeeping has been our sideline, our hobby, if you care to think of it in that way. But it is a hobby that has paid us dividends in more ways than the money we received from the sale of our honey, down through the years.

This horrible war is over, peace will reign once more over our beautiful country. Soon the springtime sun will be shining again and the bees will be streaming home to their hives with their treasure. Here it is, outdoors in God's beautiful sunshine, that man is close to nature and close to that Giver of all gifts, his Maker.

The home of the Sioux Honey Association in Sioux City, Iowa

My Reasons for Joining a Cooperative

By Newman Lyle, Sheldon, Iowa

Old timers will agree with me when I say beekeeping has experienced great changes since "keeping bees" became "big business" a relatively few years ago. These changes have affected the entire honey industry, from the sideline operator to the largest processor and packer. But happily for all concerned, every change has brought improvements. We see today in our chosen field, the development of activities we only dreamed of less than a generation ago.

I'll not go into the history of factors which have brought about the improved honey marketing situation of the present, although I am of the firm opinion that the fine work of the American Honey Institute has been largely responsible for the widely expanded market for honey as compared with the limited consumption of a few years ago. The well-prepared and carefully executed publicity program of the Institute has done a great deal to increase the effectiveness of processors' and packers' sales promotion efforts. And when I refer to processors and packers, I'm including all of them from the smallest to the largest, cooperatives as well as all others.

Beekeepers Should Stick to Honey Production

It has been my contention that a man is better off to stick to the branch of the work for which he feels he is best qualified and derives the most satisfaction. Producing honey has always been my chief interest, although admittedly the sale of the product has occupied a good deal of the time that, for me at least, could probably have been applied to better advantage and more profitably in the producing end. In fact, I found after a few years that my selling was being done at the expense of production. It soon became apparent to me that if I wished to increase my production, my entire time must be devoted to producing honey and that I must place the selling in the hands of an organization equipped for packing and marketing the product. I venture to say that a similar situation exists today with many of my fellow beekeepers. Marketing their product consumes a much larger proportion of their time than the returns justify.

To be sure, the answer to my problem could have been solved very easily by the simple arrangement of selling my entire output to any one of the many honey packers. However, as I had previously had considerable experience with cooperative marketing organizations and being fairly well informed about their

methods, I was naturally inclined to think in terms of cooperative marketing of my honey as the best long-run solution of my problem. It so happened at about that time I heard of the activities of the Sioux Honey Association which I immediately joined because it appeared to offer the best opportunity for me to continue to devote my full time to production and still have a definte voice in the marketing of my honey without actually having to look after the innumerable details of selling.

The Sioux Honey Association was in its infancy when I joined and as I think of it now, the step was somewhat of a gamble in view of the fact that the assets of the Association at that time did not amount to as much as any one of the original members could have matched individually, while the liability side showed a figure quite a bit higher than that of any individual member.

In terms of yearly output, the record shows that it was a scant quarter of a million pounds back in those days, but it was encouraging to see that volume rise the following year to half a million pounds, and then to one million, where it remained while the Association marked time until the worst years of the depression were over and until resources permitted facilities for handling a larger volume.

Incidentally, I am reminded of the pessimistic attitude taken toward cooperatives when they were regarded by most farmers as an institution that would eventually "go broke". Membership in a cooperative was not too enthusiastically sought after by beekeepers either, but I believed then and still believe, that a cooperative will succeed just like any other properly managed business, and I felt reasonably sure that the Sioux Honey Association as managed by "Barney" Remer, had a better than average chance to overcome the difficulties certain to arise in the development of a cooperative honey marketing activity.

As the end of the depression brought the country-wide economic situation back to a more normal basis than it had been for several years, the Association's financial condition made it possible to purchase a building in which processing and packing operations were initiated on a more modern basis. From that time on, the yearly output of bottled honey increased consistently to reach the present volume of twelve million pounds.

Perhaps it is just as well that I have never been inclined to share the viewpoint of those who still lack confidence in the ultimate success of cooperative honey marketing. I do not agree with anyone who holds to a defeatist attitude toward cooperatives generally or honey cooperatives specifically, but I do concede that solidarity of thought and action could be most difficult to obtain in a very large group of beekeepers whose opinions are varied.

Beekeepers Can Cooperate

It is an amazing fact that in spite of these differences of opinon, the Sioux Honey Association has one of the lowest membership turnover ratios in the entire cooperative field. Beekeepers are known to be rugged individualists, but such a record as this would indicate that rugged individualists can join hands and work together harmoniously to reach a definite goal. Nevertheless, it is essential to the successful operation of any cooperative, and honey cooperatives are no exception, that the membership be thoroughly informed on all matters pertaining to their cooperative's functions and purposes. It is generally recognized that only through a continuously well-informed membership can the whole cooperative idea be applied in a practical way.

Packing Plants Operated by the Association at Sioux City, Iowa, and at Lima, Ohio.

New buildings are being constructed at both locations in order to create additional storage space which has been badly needed for a long time. All buildings, machinery and equipment in the Association's two plants are entirely paid for, a circumstance which in itself is evidence of the careful management and direction of the Association. Moreover, a 2½ to 1 ratio of current assets to current liabilities as shown by the CPA's regular audit of the Association's books, doesn't "just happen" and the present capital structure of nearly half a million dollars could have grown as it has only under the kind of leadership which the Sioux Honey Association has been fortunate in having since its establishment in the early twenties.

Filling and packing jars of honey at the Sioux Honey Association packing plant.

I am further convinced that had it not been for the foresight and good judgment of all our members when an optimistic outlook was not too easy to take, we would not now be enjoying the progress which has made the Sioux Honey Association a cooperative in which all beekeepers can have utmost confidence. Demonstrating in a practical way what solidarity can achieve, its members have repeatedly voted the enlargement of facilities and authorized the increase in marketing effort which has brought the Association to a position unequalled in the honey industry.

Cooperative Must Justify Its Existence

In discussing cooperative marketing from time to time, I have been asked questions which cause me to believe that many beekeepers do not know exactly what a honey cooperative is supposed to do. To them my answer is simply this: A cooperative must do one or more of three things to justify its existence. It must make its members money—it must save them money—and it must perform services not obtainable elsewhere. A honey cooperative can make money for the members through its influence in stabilizing prices. It can save its beekeeper members money through efficient management, efficient methods of operating and selling, and as the cooperative does not operate for profit, by developing a market in which a higher price is secured for its members' honey. As to the services performed by cooperatives which members cannot obtain elsewhere, I would include the various marketing services, assistance in legislative matters affecting honey producers' interests, and such other aid as is available to members by virtue of their membership in their own cooperative.

Several other factors influenced me in becoming identified with a cooperative when I made up my mind to join the Association. I was alarmed at what seemed to me to be a tendency on the part of the honey industry to "fall behind" both in related and competitive lines. I saw the need for modernizing, bringing methods and operations up to date, streamlining the producing as well as the processing and packing end of the honey business. I maintained that the honey industry was not utilizing to the fullest and most profitable extent, the numerous advantages of the machine age. It was my thought that a group taking "cooperative" action could assist the already existing honey marketing or-

(Continued oin page 57)

A Simple Field Test for *American Foulbrood*

By E. C. Holst

United States Department of Agriculture, Agricultural Research Administration, Bureau of Entomology and Plant Quarantine

In the course of a study on the physiology of **Bacillus larvae,** the cause of American foulbrood of honeybees, several unique enzyme properties of this organism were revealed. Certain of these enzymes suggested that they might be made the basis of a field test for American foulbrood, a test which has long been needed. In the consideration of such a test the criterion of reliability was of paramount importance, with other features, such as time required to run, cost and availability of equipment, simplicity of performance, and ease of interpreting the results, as important secondary considerations.

The enzyme causing the liquefaction of milk casein or curd from either reconstituted or skim milk was found to be best suited as the basis for a test for American foulbrood. It is produced by **Bacillus larvae** when the spores are formed, and is thus abundant in "ropy" larvae, persisting over in the scales for years if kept under ordinary conditions.

The test, as first set up, consisted in dropping the suspected material into a vial containing about 6 drops of milk. The vial was kept at 165° F. in a waterbath during the test. With American foulbrood material the milk curdled within 1 minute. Almost immediately after curdling the liquefying enzyme began to hydrolyze the curd, and this reaction was usually complete in 15 minutes. Such a test was specific for American foulbrood.

During demonstration of the test in the field it was found that addition of water to the milk made the test easier to follow. Subsequent experiments showed that, by adjusting the proportions of reconstituted or skim milk and water, the test could be run at ordinary temperatures.

The following test, under the condition described below, has never failed to detect American foulbrood disease, nor have any "false positives" been obtained with any non-American-foulbrood diseased larvae, pollen, bees, or other material found in the hive. The initial cost for the equipment required is only a few cents, while the materials used for over 100 diagnoses will cost less than one cent. The diagnosis can be made immediately in the apiary, or the suspected material may be run later in the home, office, or laboratory.

This test is intended for use of inspectors or operators having frequent need for an American foulbrood test. An alternate method is included for use by the beekeeper who might want to perform the test only occasionally. Materials needed are skim-milk powder, distilled or tap water, a 1-dram homeopathic vial, and a medicine dropper.

Reconstituted milk is prepared from the milk powder by adding 4 level tablespoons to a quart of water. It is recommended that the milk be freshly made up the day the test is run, to avoid souring. Various types of water have been used with no unfavorable results. However, if there is any doubt as to the water, the test can be run with a distilled-water check and the results compared. Best results are obtained if the water is warm but not uncomfortably hot. The test will work, though, at a temperature around 50° F. (10° C.). Under such conditions somewhat slower clearing can be expected. If the water is cold, it should be warmed. This can easily be done by holding the vial in the hand, if only a few samples are to be run.

To run the test, place the sample in the vial and add 20 drops of warm water (about ¼ of a vial) and shake gently. Then add 10 drops of the powdered-milk solution, and again shake gently. If less than an entire scale is available, add 20 drops of water as before, but reduce the number of drops of milk proportionately. There may or may not be a fine curd after 5 minutes, but this is not a significant part of the test. The test is positive if the milky suspension clears, which usually occurs within 15 minutes, leaving a transparent, pale-yellow liquid. Sometimes the clearing is so rapid that a test is definitely positive after five minutes. The difference be-

tween a liquefied positive test and a negative or check test is very striking if the vials are held to the light. Until one is familiar with the test as obtained with American foulbrood material, it is advisable to have a check vial, with only water and milk suspension for comparison. With non-American foulbrood scales the liquid may sometimes become somewhat discolored, but the suspension remains cloudy during the 15 minutes of the test, and the test is considered as negative.

In case only one or a few tests are to be run, it is not essential that reconstituted milk be prepared. Add 20 drops of warm water as before and shake; then add five drops of whole milk (skim preferred), instead of the reconstituted, shake, and read as before. If less than an entire scale is available, reduce the amount of milk proportionately. For example, if ½ a scale is tested, add two to three drops of milk.

The test possesses a certain amount of flexibility; that is, it need not be performed in the field, exactly as described above. If for some reason the inspector cannot or does not choose to run the test immediately, the samples can be placed in the vials and tested later at the laboratory or at home. In fact, successful tests have been run with match-stick samples of ropy material, as are frequently submitted for diagnosis. In these cases only five drops of the reconstituted milk were used, since the ropy material is only partly removed by this technique.

As a matter of good practice, care should be exercised in disposing of the material in the vial after the test is run. The vials should be washed clean, and boiled 20 minutes in water before re-use.

The cooperation of beekeepers and inspectors in submitting reports of any interference with the test through water source, drug or chemical treatment, and the like, will be appreciated. For example, it has been noted that scales treated with formaldehyde fumes give a negative reaction.* Similarly, the test is retarded when scales are exposed to P-dichlorobenzene (PDB) vapors. On the other hand, sulfa drugs added to scales had no effect. Reports of any negative tests occurring with larvae in the very early stages of American foulbrood are also desired. In any doubtful cases the Division of Bee Culture Investigations of the Bureau of Entomology and Plant Quarantine will gladly make a laboratory analysis of the material.

*A. G. Lockhead, personal communication.

A winter view of Huber Burke' apiary near Reaboro, Ontario

Live and *Learn*

By Propolis Pete

[This is the first of a series by a back lot beekeeper who learned the hard way —by trial and error. It is hoped many beginners and perhaps some who think they know something about beekeeping may profit from Propolis Pete's mistakes.]

Once upon a time, a very shrewd man wrote a book called "The Mysteries of Beekeeping Explained." The reason why he wrote the book was because it was badly needed. Up until he wrote this book, bee literature in this country was made up mostly of a repetition of rumors, superstitions, and a great deal of other misinformation—most of which managed to exalt the writer and his theories.

Quinby was so disgusted with what was appearing in print, that he decided to debunk the whole business, although in his time it could hardly be called a business. It was either a sideline for farmers or villagers, or a hobby for elderly or physically unfit men. He was about the only real business beekeeper around, and was famous for the time when he broke the honey market by sending a scowload down the Erie Canal to New York City.

His book was a masterpiece of common sense reasoning on many subjects that were then still in the dark. Some of his management practices were based on misconceptions of bee behavior and reactions, but that could only be expected, what with the limited powers of observation that he had with his box hives. It was published just before the Rev. Langstroth invented his movable frame hive, and the editions that came out after that still made no mention of this improved method of beekeeping because Quinby was so suspicious of patented bee equipment. He had been burnt too often.

Since his time plenty has been printed about bees. Much progress has been made, and many of the things that he suspected, but which he could not prove, have been found to be correct. But above all, he hated fads and fancies that had no real basis for existence.

Times have changed a lot since then, but even now there is always some fad under discussion. Because there is so much discussion, a beginner with bees is very likely to get a distorted picture of actual facts. A beginner will wade through acres of deep stuff that is way over his head, and while these things are important for the progress of beekeeping, the beginner has no business to monkey with them. Theories and manipulations that are old stuff to the advanced beekeeper appear terribly complicated. A novice will go to a great deal of trouble to achieve perfection in something that is of very little importance. Then, after he has gained some first hand experience, he will go to the other extreme, and omit important manipulations because he has lost faith in his instructor.

I make no pretense to the wisdom of Moses Quinby, but I am going to write a few articles in this space with the idea of taking some of the mysteries out of beekeeping. I am going to try to debunk some of the fads and fancies of this day by telling you what I did and why it didn't work. I am going to see if I can reduce some of the complicated instructions to the point that a beginner in bees can understand what is necessary, what is good, and what not to do. I will let you in on the results of my own trials and errors. I will step on some toes, and maybe stub my own now and then.

All the instruction in the world will not make a beekeeper out of you. No books or articles, not even these, will put a drop of honey in a hive. It's up to the bees, the flowers, the weather, and you. With a proper combination of the right equipment, the right pasturage, a fair break in the weather, and doing the right thing at the right time, there is no reason in the world why you cannot get a great deal of enjoyment out of it, if you keep bees for pleasure, or a considerable profit if you have the business ability to make a go of it.

So, as a beekeeper who got everything the hard way, a beekeeper who worked with a book in one hand and bees in his hair (he had hair then)—a beginner who wished he could find out which of the books his bees were reading, I will try to tell you of the things I did wrong, the things that I did right, and the things that I did wrong, but which came out all right anyway.

Fruit Sprays and Bees

By George A. Carter
B.Sc., A.R.I.C.

Fruit farms in England vary in size from 10 to 1000 acres. The smaller acreages are found where mixed farming, such as dairying and sheep-rearing, are carried on.

The principal fruit-growing areas are Somerset in the West, Herefordshire, Gloucestershire, and Worcestershire in the West Midlands, Kent in the Southeast, and Cambridgeshire, Essex, Norfolk, and Wisbech in the East. Fruit is, of course, grown in most other counties in England, but on a much smaller scale.

The chief fruits are apples, pears, and plums, with cherries abundant in Kent, Cambridgeshire, and parts of Worcestershire. Raspberries, loganberries, currants, and gooseberries are largely grown, too.

In general, on a modern fruit-farm, about six washes are applied during the season, commencing with the winter wash. This consists of a petroleum oil emulsion containing di-nitro-ortho-cresol, and is applied from the end of November to very early March, according to fruit being treated and season.

When buds have developed sufficiently, at the "green cluster" stage for apples, for instance (which occur about mid-April) a lime-sulphur spray is given. Lead arsenate is added to the wash to deal with any caterpillars. The lime-sulphur takes care of the "scab," a fungal disease of apples.

Towards the end of April, at pink-bud stage, another lime-sulphur spray is applied, usually without the addition of arsenic. After petal-fall, about the end of the first week in May (date varies according to variety and season) a wash incorporating lime-sulphur and nicotine is applied, against "scab" and apple-sawfly. Another lime-sulphur may be applied in June. Toward the end of June a final wash containing lead arsenate is given, to deal with codling moth larvae. Some weeks after, in August, the first apple crops are ready for picking.

The application of a wash containing arsenic compounds is fraught with danger for the bees. Many orchards are kept "clean-cultivated," that is, weeds are regularly hoed in, thus there is no forage for the bees beneath the trees.

Others are grassed down, and provide good nectar plants such as dandelion and white clover; and it is not practicable to cut the weeds from time to time owing to the labor involved. Then the spray drifts on to these flowers beneath, and poisoning results.

The grower is advised in his own interest not to spray open blossoms, but this is a difficult matter to avoid when many varieties of fruit are grown. If open blossoms are sprayed, then many bees will be lost. The only thing to do is to remove the hives from the vicinity of such orchards before spraying takes place.

The problem has not yet assumed very serious proportions in England, because not many growers run their own stocks of bees; what hives there are in the orchards are usually the property of hobbyist beekeepers; and are there in only small numbers.

The practice of placing hives in orchards is increasing, the fruit-grower paying the beekeeper for the services of his bees as pollinators. This being so, there is growing concern among such beemen and growers about cases of arsenical poisoning which do occur.

No cases of poisoned nectar have been established; the adult bees die from indigestion of arsenical compounds, or the brood is killed by arsenic contaminated pollen. Nor does derris or nicotine appear to have claimed many victims.

Work is proceeding on the incorporation of suitable repellants in the insecticides applied, and search continues for a spray which would not be harmful to the bees. In this field, research into the toxic properties of the new insecticide, dichlor-diphenyl-trichlorethane (D.D.T.), is being conducted. (See page 16. - Ed.)

It is hoped that the co-operation between beekeepers and fruit-growers will continue and extend, and thus be a major factor in finding the solution to this vital problem.

Ashtead, Surrey, England

A Queen Rearing Experiment

By C. H. Pease

Some beekeeping authorities in referring to the virgin queen after she emerges from the cell say it is her alloted task to tear down the remaining queen cells, if such there are. In one book we read that "The first virgin that hatched, true to her nature, waged an unfair war upon her helpless sisters still in their cradles."

I don't consider myself qualified to contradict beekeeping authorities nor those who have had more experience than I, but I'm going to report an experience I've had recently that goes a long way towards convincing me that it is the **workers** that "wage that unfair war" upon their royal sisters.

Here's the story: On August 15 my colony No. 12 was in perfect condition and the old queen was laying all right. September 2 she was not there but the presence of a young virgin told me that a supersedure was responsible for the change. Upon examination eleven days later, when I expected to find the young queen laying, I found no queen, and no eggs nor young larva from which to make another. I gave them a frame of young brood (eggs and larva) from my best queen, and on this comb several cells were built.

In the interim, before time for the young virgins to emerge, I decided to try an experiment to try to get more than one queen from that bunch of cells, and I didn't want to run the risk of a slip so late in the season by trusting those cells to replace undesirable queens in other colonies. Even an undesirable queen is better to go through the winter with than none at all.

Although I have been led to believe that the first virgin out makes it her business to kill the others in their cells it has always seemed to me like too big a job for a weak little baby virgin, especially when there are a lot of cells. So I tried to arrange things so she could not possibly do it in this case, and, as Dr. Miller said, I "took it to the bees" to tell me who the guilty murderer was.

I cut four holes 2"x1½" in the middle of an inner cover, spaced one inch apart, and on one open side of four little individual sections I tacked perforated zinc. These little sections are just large enough to cover the holes, and are kept from slipping out of place by cleats tacked on the cover. Upon the other side of the sections (which is the top when in use) a wire screen with a hole in the middle in which to insert the ripe cell, was cut to lay on top, with a tin removable cover over all. A rim two inches high was nailed to the outer edge of the inner cover, upon which the supers rested, thus locating the "incubator" compartment exactly in the middle of the colony where the cells could not possibly become chilled and the workers could give the cells and virgins precisely the same treatment as if in the brood chamber proper.

This arrangement placed the cells hanging down naturally inside the boxes, directly over the middle of the brood chamber and gave the workers free access through the perforated zinc to all four cells, and to the virgins after they came out but absolutely barred out all other virgins, queens, and drones from entering the inside of the little "incubator" boxes.

I very carefully cut four good ripe cells out of the comb and inserted them in the holes in the screens, referred to above; when laid on top of the boxes they hung perfectly free inside, and I was extremely careful in handling the cells.

Through the inner cover, midway between the boxes and sides, were cut two fairly sizable holes on each side covered with perforated zinc, to permit the workers free access to the supers above.

As bees usually select young larva instead of eggs, under these conditions, from which to make queens, the virgins frequently emerge on the 12th day after the brood is given them. I waited until the 14th day to examine them, expecting to find four virgins in those little incubator boxes, because nothing but workers could get in to kill them, but to my surprise, every cell had a big hole in its side and the would-be virgins were corpses. What better proof could I have that it is workers not virgins, that kill their "sisters in their cradles"? Two cells were left in the brood chamber be-

low to requeen the colony, but no virgin had emerged from either of these cells when I examined the other four above. A few days later I found a fine young virgin trotting around on the combs in the brood chamber.

As there had been no queen of any kind or age in that colony for over three weeks, why were those four cells killed before even the first virgin emerged? Was it because the workers thought the cells in the brood chamber were g o o d enough for them and considered the others interlopers?

I once had a swarm from which I caught and caged eight virgins; who can explain why seven of them were not killed, when all, including the worker, had free access to them?

Would my scheme have worked better had I placed the "incubator" on top of the supers, farther away from the brood chamber?

Had the scheme worked I intended to break up the colony below into five two-frame nuclei, for the yirgins to mate, leaving one in the parent hive, and after the four queens were laying introduce them to colonies to replace inferior and older queens, then return the frames and brood to the parent colony—but it didn't work.

As I now know that it is workers that killed those "sisters in their cradles" I may (and may not) try the stunt next summer, using wire screen instead of perforated zinc on the bottoms of those little boxes, to keep workers and everything out, thus leaving the virgins to emerge without being molested by anything. Who knows if this will work? Whether it does or not, I am convinced that, although virgins may sometimes help, it is the workers that do most, if not all of the slaughtering of their sisters, and they certainly did all of it in this case, and did it before the first virgin had emerged from anywhere.

Canaan, Conn.

AMENDMENT 2 TO REVISED MAXIMUM PRICE REGULATION 275—HONEY—EFFECTIVE NOVEMBER, 1945.

Differentials to be used in determining packers' cents-per-pound ceiling prices for chunk honey have been established, the Office of Price Administration said today. To obtain their cents-per-pound ceilings for chunk honey, packers must add these differentials to the per-pound prices provided for extracted honey, OPA said.

The amounts to be added are three cents a pound for one pound only; 2½ cents a pound for over one pound but under five pounds; two cents a pound for five pounds and over and, in the case of direct sales to household consumers, six cents a pound for three pounds and under and four cents a pound for sizes larger than three pounds.

Ceiling prices for chunk honey will apply to sales of combinations containing 40 per cent or more comb honey, OPA said.

Packers whose ceiling prices for honey are determined by the formula provided in November, 1942, have been able to reflect the greater costs of chunk honey in their price, OPA said. However, when alternate dollar-and-cent prices for extracted honey were established in March, 1943, differentials for chunk honey were not provided because it appeared there would be little or none of this honey packed. Before today's change, packers of chunk honey who could not establish prices under the formula had to use the per-pound prices provided for extracted honey.

For clarification, the definitions of chunk (or bulk comb) honey, comb honey, cut comb honey and extracted honey are added in this amendment.—Office of Price Administration, November 23, 1945.

Honey ham and Italian baked rice. — Photo courtesy of the Kellogg Co.

Sweet Combinations

By Mrs. Benj. Nielsen

For those nippy, blustery days when Old Man Winter relentlessly holds sway, we ruffle through the recipe files for those hearty filling ones that really stick to the ribs. Those are the kind I have chosen for your approval this month. Each is flavorful, chockful of energy-giving goodness. Never tried honeyed ham, or rice? Well, there's a pleasant surprise awaiting you!

Last spring when meat rationing really hurt, getting a pound of ground meat was quite an achievement. We were serving guests with the humble but flavorful Spanish rice (using this ground meat) to seconds, even thirds. Urged to give the recipe I did and this friend tried it. "But it wasn't like yours—not the same flavor, somehow." Yes, the honey sweetened tomato juice did the trick! If you did not process yours with honey, don't despair, you can add it as you open it—two to three tablespoons to a quart. Honey really adds a flavor fillip to commonplace standbys! Try these and see if you don't agree.

Honeyed Ham

Blend 2 tablespoons honey and 1 teaspoon dry mustard. Spread on both sides of a thick slice of ham. Place in a heavy iron pan or skillet, add 1 cup water and 2 tablespoons vinegar. Cover; bring slowly to a boil; reduce heat and simmer until liquid is gone. Watch carefully to prevent scorching at this point when the ham is acquiring a rich brown coating. Turn to brown both sides. Um!

Italian Baked Rice

Three cups cooked rice, ½ cup grated American cheese, ¼ cup chopped cooked pimiento, 1½ cups tomato juice, 2 tablespoons honey, if it is not already sweetened with honey, 2 teaspoons salt, ⅛ teaspoon pepper, 2 cups corn flakes, and 1 tablespoon butter.

Combine rice, cheese, pimiento, tomato juice, and seasonings, including honey. Pour into 8-inch casserole. Top with corn flakes which have been crushed into fine crumbs and mixed with melted butter. Bake in moderate oven, 350 degrees F., about 30 minutes. Yield: 6-8 servings.

Honey Cranberry Pie

One recipe bran pastry, 1 tablespoon flour, 1 tablespoon sugar, ¾ cup honey, ¼ teaspoon salt, 2 cups cranberries, 1 cup seeded raisins, and 1 tablespoon butter.

Line pie pan with bran pastry. Mix 1 tablespoon sugar with flour and sprinkle over pastry. Blend honey and salt. Cut cranberries in halves, mix with raisins. Fill pie shell with alternate layers of fruit and honey mixture. Dot with butter and arrange pastry top in any desired shape or pattern. Bake in moderately hot oven, 425 degrees F., 30 to 40 minutes, or until cranberries are cooked.

Bran Pastry

One-fourth cup bran, 1½ cups sifted flour, ½ teaspoon salt, ½ cup shortening and 4 tablespoons cold water (more or less).

Roll bran until fine; combine with flour and salt. Cut in shortening. Add water, a little at a time, until dough is moist enough to hold together. Roll out on lightly floured board to about one-eighth inch thickness.

Honey Pie With Apricot Meringue

Five tablespoons flour, 1½ cups milk, ½ cup honey, ¼ teaspoon salt, 2 eggs. 1½ tablespoons butter and baked pie shell.

Blend flour smoothly with ½ cup milk. Add honey and salt; then add remaining milk. Cook in double boiler until thick, stirring frequently. Pour part of this mixture over beaten egg yolks. Replace all the mixture in double boiler and cook 5 minutes; add butter. Pour into baked pie shell. Cover with meringue made by beating 2 egg whites until stiff, beat in 4 tablespoons sugar, 3 tablespoons mashed apricots and ⅛ teaspoon salt. Bake in slow oven, 325 degrees F., until delicately browned.

Honey Oatmeal Jam Squares

One-half cup shortening, ½ teaspoon almond extract, ½ teaspoon vanilla, ½ cup honey, ½ cup quick oatmeal, ½ cup sifted flour, 1 teaspoon baking powder, ½ teaspoon salt, ½ teaspoon cinnamon, ¼ teaspoon cloves, 1 egg, beaten slightly, and ½ cup jam.

Cream shortening and extracts together; add honey gradually and beat until fluffy. Add flour sifted with dry ingredients to oatmeal. Add to first mixture alternately with egg. Beat well. Place ¾ of mixture in 8x8-inch pan. Spread jam on top and add remaining batter. Bake in moderately hot oven, 400 degrees F., about 30 minutes. Cut in squares.

Aurora, Nebr.

Honeyed Corn Cabbage

Four or 5 strips bacon, ½ cup hot water, 1 tablespoon honey, 1 teaspoon salt, 3 cups shredded cabbage, and 1 cup corn kernels.

Fry bacon until crisp and brown; pour drippings into saucepan; add water, honey, and salt. Bring to boiling point; add cabbage and cook quickly, uncovered, until just tender. Add corn and cook 2 to 3 minutes. Sprinkle with paprika; garnish with bacon strips and serve. Serves 4 to 6.

Cheese and Pineapple Salad

One tablespoon unflavored gelatine, ¼ cup cold water, ½ cup honey, ½ cup syrup from canned pineapple, 1 cup crushed pineapple, drained, 1 cup grated American cheese, 1 cup heavy cream, whipped.

Soften gelatine in cold water; dissolve honey in pineapple syrup over low heat; add softened gelatine. Chill until partially set; add pineapple and cheese; fold in whipped cream. Chill until firm. Serve with salad dressing. Serves 6 to 8.

Honey cranberry pie — Photo courtesy of the Kellogg Co.

Tennessee

By George H. Rea

[Note: Mr. Rea was the first beekeeping extension man in the U.S.A. During the years he has rendered invaluable service to our industry. Even though he has retired from active service he is still the friend of and advisor of thousands of beekeepers over the country.—Ed.]

The traveler in Tennessee may be told, "This state is neither too far north nor too far south." This might truthfully be said of other states in the same latitude. In 1944 and part of 1945 the writer had an unusual opportunity to drive about ten thousand miles in Tennessee and to observe much of what is going on. For beautiful and rugged scenery the eastern half of the state is scarcely rivaled anywhere. Here agriculture has developed mostly in the valleys and on the plateaus. The clovers are important honey plants especially where crimson clover is grown. Sourwood is widely distributed and in restricted areas produces honey crops of high quality. Basswood, usually called "lin," black locust, and tulip are among the important forest honey sources. The climate is mild in both summer and winter making it an attractive area in which to live.

The great dams of the Tennessee Valley Authority are claimed to comprise the greatest system of artificial lakes in the world. Almost unlimited electric power has stimulated rapid development of industry and the spending of vast sums for manufacturing plants for a wide variety of products. In the past few years thousands of workingmen and their families have moved into the Tennessee Valley from all parts of the country. In the postwar period many of these families will make this country their permanent home and industry and commerce will continue to develop because of the favorable conditions. Increased markets brought to the door of the Tennessee farmer have been and continue to be a great stimulus to agriculture.

Another factor is equally important to the renewed interest in farming, beekeeping included. The United States Government and the State of Tennessee are giving detailed and effective attention to soil conservation and soil improvement in an extensive long time program over the entire state. The application of this program to beekeeping is in the extensive growing of legumes for seed, soil improvement, and forage. Hundreds of thousands of acres of crimson clover, white clover, and annual vetch yield nectar freely, produce honey of high quality in color and flavor and afford opportunity for extensive development in commercial honey production. Like many other states, Tennessee has few commercial honey producers. In pollination, honeybees have been found to be an almost absolute necessity for the extensive production of crimson and white clover seed as grown in Tennessee.

Middle Tennessee and West Tennessee, as the names indicate, lie from the Cumberland Mountains on the east to the Mississippi River. The extensive limestone soils of Middle Tennessee are especially adapted to natural growth of white clover and bluegrass with considerable sweet clover in some places. Here is the home of the famous Tennessee Walking Horse and is one of the most beautiful and productive farming sections of this nation. Legumes grow to perfection and crimson clover and vetch are sown extensively. These plants are grown successfully and are important honey plants, however, in about all areas of Tennessee.

As in most states, beekeeping lagged during the depression years. State Entomologist, G. M. Bentley, did what he could to keep beekeeping interest alive but other heavy duties prevented him from giving it the attention it deserved. Early in 1944 Mr. Bentley was instrumental in securing the services of the writer to survey beekeeping conditions, recommend a program, and if possible secure a specialist to lead the work.

Due to the able leadership of a number of beekeepers in various parts of the state results were rapid beyond all expectations. Although the Tennessee State Association had not met for several years, Greene and Warren Counties maintained wide-awake associations and The West End Nashville and Old Hick-

ory Beekeepers' Clubs thrived. It was impossible to accept all of the invitations for service by county agents, beekeepers, schools, and clubs but demonstrations and other educational meetings were held in 25 of the almost 100 counties in the state, large numbers of colonies were examined, and several lectures were given before various schools and clubs.

In addition to those already existing in Greene and Warren Counties, new beekeepers' associations were organized in Henry, Dickson, Maury, Giles, Bedford, and Hamilton Counties. On December 8, 1944, nearly 100 leading beekeepers from all parts of the state met in Nashville and reorganized the Tennessee State Beekeepers' Association and adopted a progressive long time beekeeping program of education and apiary inspection. An annual appropriation of $10,000 was secured for the development of the program. The following officers were elected. President, Mr. Armstrong Allen, Nashville; Vice Presidents for respective divisions of the state, Mr. Robert W. Lane, Greenville.: Mr. H. L. McClain, Morrison; and Mrs. Irl Compton, Paris. The State Apiarist was elected Secretary-Treasurer.

It was with happy satisfaction that on April 1, 1945, we had the pleasure of introducing Mr. John M. Amos into his official duties as State Apiarist and Assistant State Entomologist with office in 408 State Office Building, Nashville 3. Encouraging reports are coming from down that way and there are evidences that Tennessee will soon exceed her fine record as one of the great beekeeping states.

This brief story has left out much of interesting details but it could not have been written had it not been for the weight of friendship, ability and influence on the part of Commissioner of Agriculture C. C. Flanery, and the continued enthusiastic support of his successor the present Commissioner of Agriculture O. E. VanCleave.

LEGUMES NEEDED

Worn-out soil the country over demands the planting of more and more legumes, and the greatest legume of them all is sweet clover. This picture was taken in a 12-acre sweet clover field just north of Elmira, Mich. John Hess, of Mechanicsburg, Pa., and Maynard Beck, of Lansing, Mich., admiring sweet clover nearly seven feet high.

Heavy Losses of Bees Through the Ignorant and Careless Use of Arsenicals for Spraying.

The Hope of DDT

By E. R. Root

There is no denying the losses of bees from repeated spraying and dusting of arsenicals in portions of the United States. In a number of cases whole apiaries have been wiped out in a single night. In most cases there has been a heavy loss of bees so that the flying strength of a colony is reduced to a point where it can get little or no nectar even if it were available. Where there is intelligent and helpful cooperation between the fruit grower and the beekeepers, these losses have been reduced to a minimum, but too often there is a spirit of antagonism between these two classes. Thousands of tons of arsenicals are being applied annually and where these have been applied by airplane losses have been particularly heavy. This applies especially to California, Arizona, and Texas.

It has been difficult to get legislation to prevent these losses; without the use of these arsenicals in many cases crops would be destroyed. Now that the most powerful of all insecticides has been released for civilian use, under certain restrictions, some leading beekeepers are worried that they will lose all of their bees.

Even though DDT is probably the most potent of all insecticides and is fatal to honeybees when placed in sufficient quantity in their food or when bees are confined to cages treated with it, there is yet no evidence that, when this new insecticide is applied in large field tests, it is particularly harmful to bees. If care is taken to avoid the application of DDT on honey plants in full bloom, there is distinct hope that it may not prove so serious a menace as the arsenicals. DDT is almost insoluble in water; will not dissolve in dew or rain, consequently adheres unusually well to foliage. With many crops one or two applications may suffice. With arsenicals, especially in the control of the codling moth, 8 to 12 sprays are often required during a season. Cover crops on which bees are working in orchards are bound to catch some of these sprays. Indications are that such numerous applications of sprays can be avoided with the use of DDT. Arsenicals are soluble in water.

So far DDT is proving to be our friend and not our enemy. There is evidence that through the control of injurious insects the application of DDT before bloom, and this applies particularly to alfalfa, induces an unusually heavy bloom making this plant more attractive to honeybees than would be the case when plant-bugs and other insects are allowed to destroy millions of flower buds, making in many instances the production of seed essentially an impossibility.

While the field application of DDT as a dust or spray does kill a few bees right along, we have yet to encounter a case of colonies killed or seriously damaged. In 150 acres of DDT treated cotton, where bees worked both floral and extra-floral nectaries, the colonies were much stronger in bees, honey, and brood at the termination of the experiment than they were when put into the field.

That arsenicals are destructive to bees in many localities has been proved time and again. Not all applications of arsenical insecticides have proved destructive to bees. Thousands of acres have been treated with baits for the control of grasshoppers, yet late work seems to show that there is little evidence that this practice is detrimental to beekeeping. The beekeepers of Utah have suffered heavy losses for many years. It is becoming apparent, however, that the arsenic in smelter fumes is largely responsible. The condition became so acute in Utah that finally the legislature was prevailed upon to approve an appropriation of $5000 to investigate bee losses in the State. A report of this work is summarized in a very exhaustive and informative bulletin prepared by Dr. George F. Knowlton, Associate Research Professor of Entomology of that State.

We suggest that our readers who have suffered bee losses of any kind, send for this circular. Write for Bulletin No. 310, Poisoning of Honeybees, by Dr. George F. Knowlton,

Utah Agricultural Experiment Station. Also write to the U. S. Department of Agriculture for Circular E-584, The Dependence of Agriculture on the Beekeeping Industry—A Review, showing how bees increase the food crops many times. Also ask for Circular E-545, A Report of Investigations of the Extent and Causes of Heavy Losses of Adult Honeybees in Utah, issued in August, 1941. Material for this was furnished by members of the Bee Culture Laboratories, working in cooperation with Utah Agricultural Experiment Station.

If it shall be proven that DDT will become our friend rather than our enemy, then it will be high time to secure legislation preventing the use of arsenicals which, in order to be effective, must be applied repeatedly in the form of a dust or spray. An educational campaign on the part of beekeepers and fruit publications should be instituted because it is none too early to begin this work of education and cooperation between all parties concerned.

It is highly important just now on account of the scarcity of sugar and the general shortage of food supplies necessary to take care of a starving world, that we should get the most out of the bees. There is no single agent that will do more to increase the food crop of the country than the honeybee.

LEWIS W. PARKS, FOUNDER OF THE AMERICAN HONEY INSTITUTE

By E. R. Root

Someone last summer took a picture of Lewis W. Parks and the writer. When it came into my possession it seemed to be an opportune time to tell something about Mr. Parks, Chairman of the Board of Directors of American Honey Institute and founder of the organization.

Away back in 1927, the Bee Industry Association had been organized, consisting of the leading bee supply manufacturers of the country. At its meeting in Chicago, February 1928, Mr. Parks stated that he thought the time had arrived when we should have an American Honey Institute, the same as other food institutes over the country. He had found just the right man in the person of Dr. H. E. Barnard, a chemist and all around food expert, a man of national reputation who had been at the head of several Boards of Health, and who was at that time State Food Commissioner of Indiana. Dr. Barnard was willing to head up the work.

On March 31, 1928, at Indianapolis, a fund of $5000 was pledged by members of the Bee Industry Association, with the hope and expectation that after it got fully under way beekeepers and all others interested would back it up. Dr. Barnard had been connected with the baking industry and had hoped to introduce the use of more honey for that purpose. He was empowered to employ a secretary on full time. That person with Malitta F. Jensen, who in later years was the Managing Director of the organization. She did a remarkably good piece of work in

Lewis W. Parks, President of the American Honey Institute, and E. R. Root, Senior Editor of Gleanings in Bee Culture.

connection with Dr. Barnard in helping to sell the Institute to the beekeeping public. The late Geo. C. Lewis was the first Chairman of the Board of Directors. Prof. H. F. Wilson, of the University of Wisconsin, was chosen as Manager. The present organization is made up of Lewis W. Parks, Chairman of the Board, Mrs. Harriett M. Grace, Executive Director, with the following Board of Directors: A. G. Woodman, Vice Chairman; L. C. Dadant; M. S. Stone; V. G. Milum; M. J. Deyell; R. E. Foster; R. F. Remer; and Woodrow Miller.

Looking Backward

By C. W. Wood

Although we are frequently told in the literature that bees have been domesticated (?) since before the dawn of history, it is not apparent how far into antiquity one should go to reach the exact date. It would probably be useless, anyway, to make the inquiry, for most, if not all, the domestication practiced by man occurred long before the age of records. Thus, the horse, cow, dog, cat, barnyard fowls, and honeybees, to name only a few familiar ones, were a part of man's domestic economy when he first appeared on the pages of recorded life. It might be of some interest, however, to inquire into the facts and fancies held by the ancients regarding their friends, the bees.

We would find, for instance, a pretty fancy held by the Greeks. It appears that the god Saturn had the very reprehensible habit of consuming his offspring; so when his son Jupiter was born, the mother, Ops, entrusted him to two of the King's (Greece) daughters. Like most children, the young god was given to fits of crying and, because that would give the secret away, the two Princesses conceived the idea of beating upon pans when the youngster cried so his father could not hear the child. It is unnecessary to tell the beekeeper that beating on the pans attracted swarms of wild bees; nor is it needful to point out the sequel of the myth: Jupiter, realizing later the part bees had played in his useful life, endowed them with what modern scientists know as parthenogenesis, meaning the ability to forego the male and female principle of reproduction.

Marvelous, indeed, were some of the fancies held by the ancients regarding bees. They had, for instance, several explanations to account for their reproduction, the one most generally accepted being that the bees collected their young from the flowers and foliage of certain plants. The reason why some plants had this ability and others did not is not made plain, nor is it apparent why the reed and the olive were especially blessed in that respect, as they were reported to be. Another fancy in this realm, more repugnant than the first and less generally held, was that bees were generated in the putrid bodies of lions and oxen, the "Kings" from the brain and the "vulgar herd" from the flesh. This fancy is more readily explained by the fact that flies emerge from the decaying flesh and perhaps by the occurrence of swarms of wild bees in skeletons of animals, as in the case of Samson.

Several ancient writers, including Aristotle, Virgil, and Pliny, turned their attention to the bees, often with most absurd results, as we look at these matters now. And as their conclusions were accepted by the laymen during the succeeding centuries, little progress was to be expected. As a matter of fact, their treatises were used as practical handbooks until near the close of the seventeenth century, when inquiring minds commenced to blaze a trail toward what we now accept as facts.

It was only natural though that the first of these trail-blazers were much influenced by the ancients. Thus, Thomas Hyll's, "A Profitable Instruction of the Perfite Ordering of Bees," first published in 1572, was mainly a compilation from the ancient writers. A little progress was made by Edmund Southerne in his original "Treatise Concerning the Right Use and Ordering of Bees," which was published in 1594. More interesting than either, though perhaps no more reliable, according to modern standards, was "Feminine Monarchie; or a Treatise concerning Bees and the due Ordering of them." He was hard to read, because of his curious orthography (a forerunner of modern simplified spelling), and his conclusions were somewhat fanciful. He made much of "bee-music." for instance, and the edition 1632 expanded that theme to include four pages of music with the words. He must have written that part with tongue in cheek, though, for he says he cannot vouch for its accuracy, "because in t h a t confused noise, which the buzzing bees in the busie time of their departing doe make, my dull hearing could not perfectly apprehend it, so that I was faine to make up that as I could."

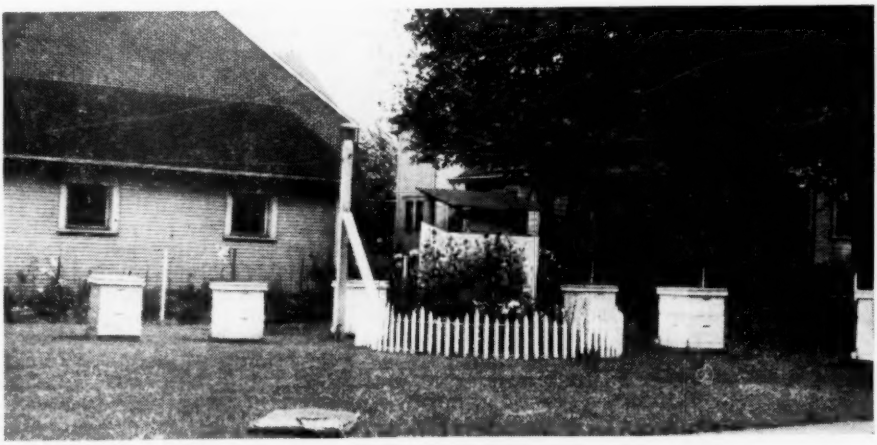
The writers of that era seem to have been divided on two points—the "ringing of the bees" and the sex of the ruler of the hive. On the

first score, Southerne wrote: "When the swarme is up it is not good to ring them, as some doe, nay it is a common thing where there is no experience to keep a stirre and lay on either with a Bason Kettle or Frying pan taking (as the common proverb is) great paines and having little thankes: for by such meanes they make the bees angry, and goe further to settle than otherwise they would." When one first reads the writers of the sixteenth and seventeenth centuries, it appears that they cannot make up their minds regarding the sex of the ruler of the hive, for first one has it a queen and the next a king. Closer attention shows it was not so much a matter of difference of opinion; rather, it appears, that they were not certain about that phase and were merely ascribing the sex of the ruling monarch of the country (England) at the time the book was written. So Rusden, who was bee-master in the reign of Charles II, calls it the king bee and Warder, who wrote during the time of Queen Anne, speaks of it as the queen bee.

I knew an old beekeeper in my youth who always raised his hat to the bees when he went to the yard. It seemed strange to a youngster, though even then I could see not a little sense in the act of courtesy to such "knowing critters," as he called them. Since delving into the literature of the ancients, I find that he had a precedent in "the old beefathers who used to raise their hats to the honey bee, a gracious act of courtesy, the spirit of which we should do well to emulate."

It seems, however, that this habit, as well as that of "telling the bees," has fallen into disrepute. And who can say it is for the better. Even when the simple country folk were in the habit of "telling the bees," it was looked upon as childish by the sophisticates. It was, we are told by Kennedy-Bell, in one of his charming essays, "a relic of the time when the honeybees were looked upon as the guardians of the household, and every important event in the family life, whether of joy, sorrow, or adventure, was told to them as a mark of courtesy or consideration."

It is unfortunate in some ways that modern beekeeping practices have taken so much of the romance out of the business. Modern investigators have likewise solved many of the mysteries of the hive. But we can still say with Bliss Carman, when he speaks of the honey bee in "A More Ancient Mariner" that "He looks like a gentleman, lives
like a lord,
And works like a Trojan hero;
Then loafs all Winter upon his hoard,
With the mercury at zero."



The backyard apiary of Dr. I. W. Myers, Wellsburg, W. Va.

From the Field of Experience

TWO USES FOR A BOTTOM BOARD

By A. H. W. Birch

A bottom board with cleats attached as shown on the sketch may be used either as a summer cover or as a floorboard.

When used as a cover, the cleats will prevent it from slipping off, and if pins are put through the cleats, there will be no need of a stone or brick to keep it from blowing off.

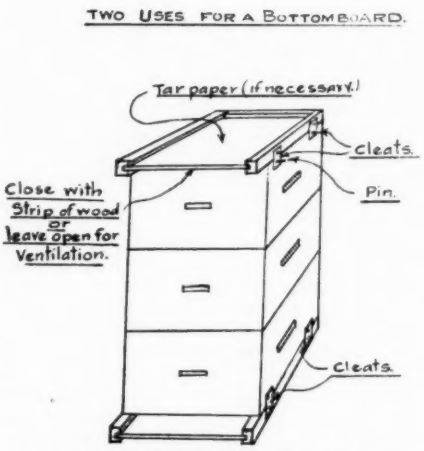
When used as a floorboard, the cleats will, in the case of the moving of bees, prevent it from falling off.

If necessary a piece of tar paper fitted inside the rims or rails will make the cover more watertight.

The open space on the underside at the top may be closed with a strip of wood if there is danger of robbing, or left open for ventilation. Such a cover will be useful when mating queens from above.

These two uses for one piece of equipment commend it in these days.

Montreal West.



The cleated bottom-board can be used as a cover also. The cleats keep it from being blown off by a strong wind.

CRANBERRIES AND HONEY

By O. G. Hammond

The above title sounds like a kitchen recipe, but it is not so intended. In the book "Honey Plants of North America," written by John H. Lovell, he says, "Bees greatly increase the crop of cranberries but do not get a large amount of honey."

I heartily agree with the first and believe that bees pay a big dividend to the cranberry grower. We keep bees for the purpose of fertilization, and figure the honey as a side line.

That bees do not get a large amount of honey from the blossoms I do not quite agree. I have watched them closely for the past three seasons and have come to the conclusion that a fairly large amount of honey is brought in from this source.

We have some white clover here on the dykes and along the road sides, which is in blossom when the cranberries are, but I could not see many bees working there, but there were a great many on the cranberry blossoms, and the bees were coming in heavily loaded.

When I walked down on the bogs, at first I saw only a few bees but heard many. I discovered that they were underneath, working the lower blossoms and going from one to another without coming in sight, thereby being of the greatest benefit to the crop by fertilizing the blossoms which the wind could not reach.

The past season our neighbor who does not keep bees had a poor under crop but a good top crop, while we with fifteen colonies had a good under crop as well as a good top crop. I think the bees should have the credit.

This is not considered a good honey section and this has been a poor year. (This was received in December, 1942.—Ed.) Some beekeepers in the farming area a few miles from here say their bees did not produce enough to keep themselves through the winter. We got more than one half ton from 15 colonies, and left an abundance for winter. Most of this was made during cranberry blossom season when there was not much but cranberry blossoms and a little white clover on which they could work. The honey is amber in color and mild in taste.

Wisconsin Rapids, Wisc.

ODDITIES I'VE SEEN IN BEEKEEPING

By Carl M. Teasley

No doubt all beekeepers have seen or know of freakish incidents in the bee realm. Such tales, true to the letter, often come out at beekeepers' meetings or wherever two or three of the fellows get together. They add spice to life. Let me tell you a few of the things in my beekeeping life.

Early in my first beekeeping year I had a swarm issue from one of my seven colonies and settle very conveniently in a bushel basket located against a fence about 20 feet back of the bench on which the colonies stood. The hiving of the swarm was easy. A peck swarm in a bushel basket can be poured out into a half empty hive body like pouring honey out of a bucket into a ready-to-serve pitcher. My mind persuaded me to place the "lucky" basket back into its original place against the fence. Ten days later I hived a second swarm by simply pouring it out. So baskets are good swarm catchers, as good as decoy hives, at least.

And queens act funny, too. Far more tales get out on them than on the Katydid. Several I know of got so prolific at times that they—proven fertile breeders—laid as high as seven eggs in some cells! Most of them think one egg is sufficient but you just let one really get into stride, brother, and be crowded for space to lay eggs!

I know another queen tale, too, about so called "tiger" queens. The "tiger" is given them because of their striped abdomen. The larvae they were grafted from was over 16 hours old. They became "ugly ducklings" of the queenworld after mating but made excellent mothers of strong colonies. Allen Latham and Jay Smith could verify this, or any queenbreeder. If you want a "tiger" queen just use older larvae when you do your grafting. She'll do the rest.

Swarms and their actions are topics of conversation too. I know of one swarm that settled on Joe Wheeler Dam during its construction and a laborer put it into a nail keg and hauled the bees 72 miles in a towsack before hiving them. The colony resulting was no let-down pointing back to its long journey. I know of another swarm that stayed two days in its first cluster before flying to some distant tree across early summer fields. And I know of another swarm that issued from the same mother colony three days in a row—then decided not to swarm! Yet another swarm I know of, probably the largest I've ever seen, held 14 virgin queens. I caught and killed them all, then gave the swarm a caged fertile queen and they were steady in their work three days later.

Seeing three healthy queens busy in the same colony is no new sight to me either. Needless to say the colony was very populous.

One mother and two daughters was the way I figured things to be. One mar was on the abdomen of one daughter, however, and that was a slight dent in the third segment. This no doubt explains the presence of the three. One mother, one crippled (slightly) first daughter, and one perfect second daughter to supersede the two in time. Bees can arrange matters to suit themselves.

By far the oddest accident to bees that I know of is one I saw when checking the fence in our pasture. A bee flew directly into one of the barbs and was impaled thereon. The barb entered centerly between the two compound eyes. Strangely, the few wing movements it made did not dislodge it's body and it remained on the barb until I removed it.

Apison, Tennessee

ANOTHER WAY TO INTRODUCE QUEENS

By A. W. Kruse

A different method of introducing queens was tried this fall and it worked out very well. A food chamber filled with bees was placed a few feet from the stand to be requeened; the entrance reduced to one inch and faced in the opposite direction. As soon as the queen was released and had started laying, the old queen was removed, and the bees with the new queen were reunited with the original stand using newspaper between them. This may not be a new idea, but any improvement on queen introduction is worth a trial.

Des Moines, Ia.

ENCLOSE A STAMP, PLEASE!

By C. H. Pease

I have just read a quotation from Abraham Lincoln that struck me as one that should be of especial interest to those who write for bee journals.

Even from the little that I have written for publication I have been pestered with requests for information from people who expect me to spend a lot of time, stationery, and postage, enlightening them on subjects that they should get from bee books and magazines.

Here's a sample from one who had read of my cellar wintering successes and had dug into a bank and made a bee cellar. He said: "Kindly answer the following questions:

1. What time would you advise putting the bees away?
2. How much syrup (sugar) should I feed each swarm?
3. Should the amount of sugar syrup be in addition to what honey may already be in the hive?
4. How much sugar syrup do you feed your swarms?
5. How much honey on an average is there in your hives aside from the amount of sugar syrup which you feed?
6. Tell me how you mix the sugar syrup—what proportion of sugar to water?
7. Do you feed again in the spring?
8. Is it possible to feed the bees in the cellar during the winter?
9. What time do you take them out in the spring?
10. What is the total amount of honey and sugar syrup that should be in an average sized hive to winter successfully in a bee cellar?

Please do not miss any of these questions. Will you kindly let me hear from you at once?"

Considering that he did not even enclose a stamp for the reply, I told him what I could on a one-cent postal card.

Here's how Lincoln handled a case of this kind: At a lodge in Philadelphia, many years ago, a group of very old veterans were telling stories about Lincoln. Said one: "My wife collected autographs. She wrote Lincoln for a sentiment and she got in reply a note which ran: 'Dear Madam: When you ask from a stranger that which is of interest only to yourself always enclose a stamp. There's your sentiment, and here's your autograph.—A. Lincoln.' "

[Mr. Pease is right. Readers should enclose postage when writing our contributors for information. —Ed.]

TO PAINT OR NOT TO PAINT

By W. R. Allen

I was very interested in M. H. Stricker's article in September, 1945 Gleanings, "Paint for Bee Hives". When I was in the nursery trade we painted greenhouses and frame lights with the most expensive ready mixed stock made with white lead, genuine linseed oil and American turpentine. In two or three years it had perished and rubbed off like chalk. Seeing an advertisement for aluminum paint we decided to try it out on a newly erected house and frames. The result was extremely satisfying. It is practically indestructible, a real money and labor saver.

My last three new hives (W.B.C.), now dubbed old-fashioned, were painted aluminum on to the bare wood and are as good as ever after seven years exposure. But why paint with anything? There is a certain coterie of "high lights" in this country, who claim that the **modern** single walled hive must not be painted when constructed with so called western red cedar Juniperus Scopulorum (Sargent) but any other class of hive timber should be creosoted. The theory is that with an unpainted hive moisture can get out through the wood—if painted it holds it, hence mildewed combs.

I have seen unpainted greenhouses with walls constructed of red cedar saturated through to the inside in rainy weather, also the devastating effect in plant life due to creosote fumes. Are these conditions suitable for the bee population?

What do our American friends think of it?

Gleneagles, Gt. Bookham, Surrey, England.

ONIONS NEED BEES

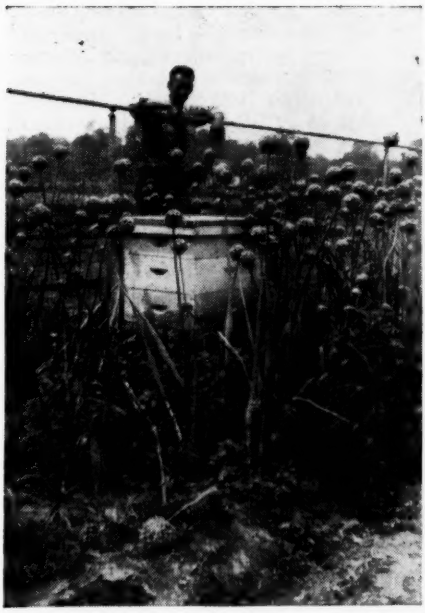
By R. Parker Hamilton

In 1943, bees were very scarce in certain portions of Bergen County, New Jersey. At the Wellenbrock Lutjens farm on the outskirts of Hackensack only eight pounds of hardy onion seeds were produced.

The following year Mr. Wellenbrock rented eight hives of my bees. He only planted one half as much onion seed. A hive was placed at each end of the onion patch as they came into bloom. This year the seed yield was well over 150 pounds.

On visiting Mr. Wellenbrock one day he exclaimed, "There must be a dozen bees on every one of those blossoms."

River Edge Manor, N. Y.



Hives of bees placed close to the onion blossoms.

BEES DO NOT BELIEVE IN PROHIBITION

By Robert W. Lane

This is what happened to me not so long ago. I had some bees back in the mountains, and at this particular place I had 40 hives. This happened right in the heaviest part of the sourwood flow.

I was checking very closely, making my rounds three times a week. I had all the queens clipped, thinking that I wouldn't lose very many of my swarms. My helper and I reached this yard about one o'clock, and on the ground in front of every hive was from a quart to a half gallon of bees. Every hive there had swarmed. It was an awful sight. I thought the bees were full of honey and couldn't get up to the hives as the fronts of the hives were from 12 to 18 inches off the ground. We leaned sticks against the hives and the bees would climb up them a little way, then fall off . I was dumbfounded.

I thought of paralysis, but did not see why they should all be affected at once. When I opened up the hives I found them full of a milky fluid. This gave me an idea.

I knew most of the folks who lived around there but always gave a signal so they would know who it was. I asked some of the boys if there was anything on top of the ground or around where my bees could get at it. They told me my bees had run them off and they had had to move to a new place. After we got this stuff covered up in just a short time, my bees went back to work.

During blackberry time, or when the peaches are ripe, the bees will stay out all night no matter what kind of a honey flow is on.

Bees like beer, but I have never seen them go after honey and drink at the same time. At this particular place the boys were fond of corn in liquid form and the whole place was covered with sour mash.

I moved out, but I know one beekeeper who lost 50 colonies of bees with the hives full of honey and as clean as a pin. However, the honey was soured and not a bee in the yard.

Greenville, Tennessee.

SECOND GLANCES

By C. M. Isaascon

Small incidents—large interest. That about sums up Grant Morse' article which starts out the December Gleanings (page 489). Many of us know of similar incidents, but not all of us note them down. A queen being thrown out of a colony when still alive will usually attract a "body guard"—and it is very often true that white combs are not attractive to a laying queen. The bumblebee in the hive was out of the ordinary; it is seldom that it would not be balled quickly. And that "ugly colony"—perhaps it was the rear entrance that was the cause, but I have used back openings for years during hot weather without noticing any undesirable results.

A hobby can be a cherished thing—and as so large a proportion of town and city beekeepers have bees mainly for such a reason, Mr. Eckert's review of information relating to this question should be of interest to many. His advice to use precautions in locating and handling bees in cities—and to move them immediately if there is real danger of causing trouble, can go far to avoid unpleasantness, especially if the interesting parts of beekeeping and bees are publicized. As he says, many ordinances are unenforced simply because there is no need of enforcement, and with care, this can often be true in cases involving bees (page 492).

Small scale honey clarification is described clearly by the pictures and text on page 494. The equipment seems simple and inexpensive, and the results Claude Mohrman mentions certainly are worthwhile. The rapid cooling he speaks of is good—too much honey has been damaged by being held at high temperatures for too long a period. He has shown real ingenuity in building an efficient outfit instead of buying everything readymade.

Accounts of bee-trees interest—always. And the clear photos along with Edmund Moot's article (page 496) don't detract from that interest. We will all hope that his newly domiciled "wild bees" did produce some honey for him the past summer. But I hardly think that the original queen is still doing business.

Elimination of moisture is becoming recognized as a necessity in wintering all over the country. The double inner cover feature (page 498) should be quite effective at that, and in a warm locality may be a device of considerable value. But I hardly think that it could be a substitute for packing in northern regions. I would be quite dubious about trying it here unless packing was placed above. It is becoming quite common in this region to allow the moisture to escape into the packing through the left open inner cover hole. A violation of orthodoxy perhaps, but it works.

Honey cookery should age, says Mrs. Nielsen of her this month's recipes. Probably very true and desirable—but if it is too good, a guard (with a bazooka or something of the sort) may be necessary to make sure of that aging time. Naturally though follow her advice if possible.

A review of heresies is needful. Too often they tend to creep back when we fail to realize, or remember, the actual harm they caused in the past. The contraction craze was one of the worst. Feeding sugar syrup does have its merits under certain conditions but would be a tremendous and needless labor unless those conditions are present. And that pollen is actually needed in wintering instead of being detrimental is more and more accepted (page 501).

Bees working in rain are not too often seen (page 502). But during the period of wild raspberry bloom I have seen nectar gatherers out during the whole of a misty, rainy day (the nectar in a wild raspberry blossom is protected by the fact of the blossom hanging downwards).

Avoiding all drone cells may not be only impossible of fulfillment but actually undesirable (page 503). Too many times good combs will be "worked over" when the bees get the notion that they have too small a portion of drone comb. A few patches here and there can satisfy their instinct and still do no particular harm (of course, providing that the total area is not too sizable).

Not a beekeeper? Perhaps Don Nielsen may end up in some other pursuit but the odds are already getting heavy against it (page 594). Bee fever is a hard "sickness" to cure.

Soil Too Rich In Nitrogen Causes Blight On Pears

By John E. Johnson

My first orchard of 1100 pear trees was planted about 50 years ago. The trees are still bearing and there has been very little blight. Here in Missouri I've had pear trees about 20 years, also with hardly a twig of blight to be seen. I feel that my experience of 50 years in Illinois and Missouri is of value to any beekeeper who wants to grow one or a thousand pear trees.

Of all fruits, there is nothing so easy to grow as pears. The borers do not bother them; the coddling moths seldom notice them. The trees begin to bear young and yield heavily.

Just seed the ground to bluegrass and let the trees alone until picking time. That kind of treatment would ruin an apple orchard or a peach orchard. I am more sure than ever that in Illinois, Missouri, Kansas, Arkansas, and other rain-belt states, on old highland soil, Kieffer, Garber, Dutchess, and Lincoln pears can be kept free from blight. There should be no cultivation except hoeing around the trees the first two or three years; then the ground should be seeded to the bluegrass and the trees allowed to grow and bear. The bluegrass uses up the surplus nitrogen. If fertilizer is applied at all, put on wood ashes, not too close to the trees, as otherwise the potash will eat the bark off if it comes in contact with it. If the ground is too rich in nitrogen, sow a quart of salt not too near the tree. Plant the trees 18 to 20 feet apart.

If blight should appear in later years, cut it out below the blight and burn the limbs, disinfecting the pruning saw occasionally. In this way the blight can be controlled easily if not entirely eliminated.

I wrote about pear blight more than 40 years ago, as my article on page 779, of the September issue of Gleanings, 1902, will show. I said bees did not carry it and I was criticized, but now after 40 years, with these orchards in two different states still in fine bearing condition, I think I have been exonerated. I am now seventy-eight years old.

Verona, Missouri.

KINGBIRDS DESTROY QUEENS

By Allen Latham

About 1916 my son and I took up the queens in a row of 45 mating boxes, he starting at one end and I at the other end. I took up some 15 queens without a miss, and then mating box after mating box had no queen. Paul took up some 11 queens at the other end with scarcely a miss and then box after box had no queen.

Along the middle of the row there were 15 boxes that had no queens. On a branch of a tree nearby was a kingbird's nest with four young in it. I was getting well over a dollar per queen and did not have enough to fill orders. I did not think that nest of birds was worth over $15 and so put a charge of shot through it and also shot the old birds.

Norwichtown, Conn.

Bottom as Well as Top Entrance is Needed

By C. H. Pirkey

Mr. Editor: In answer to your question you raise on page 498, December Gleanings, I shall say that it is quite necessary that the reduced regular bottom entrance should be left open, just in case there should come a few real warm days. The bees would be almost sure to suffocate if the temperature should rise to 80 degrees or higher for very long, if there were no other openings.

However, if nature closes the entrance with ice or snow pay no attention to it regardless of how long it may remain. The bees inside will stay dry and as snug as a bug, and when nature that closed it melts it away the bees will be all right instead of being wet and dead.

Using the top ventilating method same as I explained in December issue I have never had a loss or any noticeably bad results, when snow and ice were kept piled all around the hives to depths of two feet for very long periods.

Charlottsville, Va.

Eighty Years Among the Bees

By E. R. Root

The Things That "Ain't So"—continued

In the last issue I mentioned the fallacies of the pollen theory and contraction concerning which there had been pages and pages of good bee journal space that had much ado about nothing.

The Dickel theory was another example of wasted space not only in the American journals but in all the foreign publications. Today we do not hear anything about it because Dr. Dzierzon has been vindicated in his theory of parthenogenesis beyond any question of doubt.

The Sting-Trowel Theory

Now I wish to pay my respects to the sting-trowel theory. Why pages and pages of good bee journal space were wasted is beyond me. It was silly, unscientific, and dangerous. It is, in fact, a very fine example of Josh Billings' observation —"What's the use of knowing so much when so much you know ain't so." This nonsense, as it now proves to be, was promoted by a man high up in beekeeping circles in the late 70's and the early 80's. This, in brief, was the story: He contended that bees not only use their stings against a common enemy but also used those same stings as trowels to cap over their honey. Listen to this: He argued further that bees sting those cappings, injecting a minute amount of bee poison (formic acid) into the honey to preserve it. It should be said in this connection that formic acid was believed at the time to be present in all honey.

Late work has proved conclusively that formic acid is very seldom found in honey, and then only a trace, but in its place is found citric and malic acid, the former as found in orange and grapefruit juice and the latter in apples. Both are non-poisonous.

The unfortunate development of this sting-trowel theory was that the newspapers got hold of it and sent broadcasts all over the country saying that honey was poisonous because a certain high authority said the bees sting the cappings and, therefore, put poison in the honey. This story, as ridiculous and absurd as it was, was repeated time and time again. It was only last year, 1944, that we found the thing rehashed all over again. It was and is as harmful as the Wiley lie.*

Bees are not Warm but Cold Blooded Animals

Back in the early 70's and later in the 80's, heavy insulation of hives was recommended for any and all localities north of the Ohio River. The recommendation was based on the idea that bees are warm blooded animals, when as a matter of fact, they are cold blooded. Unlike human beings, they can stand a temperature a little above 50 and still be in a perfectly normal condition. The quieter bees can be kept, the better they will winter, and they will be the quietest around 50. The old idea that bees should be as warmly housed as human beings is a mistake. Man, a warm blooded animal, must maintain a temperature of 98 2/5° F. A variation either above or below for a continued period may bring on disaster. He must be warmly housed and wear clothing to fit the season from hot to cold. Bees are cold blooded animals and can stand a wide variation of temperature from season to season. Relatively, they do not need so much protection as we do in housing and insulation. While I do not wish to give out the idea that packing is never valuable, the latest experiments have demonstrated that bees can stand lower temperatures than we have heretofore given them credit of taking.

Lest I be misunderstood at this point, there are certain conditions when packing will save stores (there is no question about that); conditions also where perhaps more brood will be reared and other conditions where packing is a hindrance rather than a benefit. We stress the latter, but we must not lose track of the fact that climatic conditions sometimes and often call for insulation and that insulation should be kept dry as I pointed out in our last issue. While this does not properly belong under the heading of things that "ain't so", it does prove that we can overdo a really good thing.

*This, coming from the U. S. chemist, was to the effect that the nice comb honey in sections was manufactured and cells filled with glucose. The papers were full of it in the early 80s, and it still crops up occasionally.

Beekeeping Instruction Offered by Kansas State College, Manhattan, Kans.

For guidance of service and ex-service men, also others in regard to beekeeping instruction given at Kansas State College, this university offers several courses dealing with beekeeping or apiculture, including both the undergraduate and graduate student levels.

The following are the courses as listed in the college catalog:

For Undergradate and Graduate Credit

Course 208. General Apiculture (Fundamentals of beekeeping). 3 semester hours. Second Semester.

Prerequisite: Course 101* (4 hours) or 203†. Structure, life history, seasonal cycle, general behavior, activities, and products of the honeybee; races or varieties of honeybees, bee diseases and their eradication and control; relation of bees to agriculture and horticulture; practice beekeeping. Two hours of recitation and three hours of laboratory a week. Charge, $1.00.

Text: "Beekeeping", by E. F. Phillips ($4.00). This is supplemented by lectures.

* Course 101. General Entomology. 3 or 4 semester hours. Each semester and summer. A basic study of insects and related arthropods as animals and how they effect plants and animals, including man. Students who desire to use this course as a prerequisite to other courses in entomology should register for the laboratory, which is the same as for course 203. Three hours of recitation, with an optional three hours of laboratory a week. Charge, $1.00.

† Course 203. General Economic Entomology. 3 semester hours. Each semester. Prerequisite: General Zoology 105 or General Botany 102 (5 hours). When taken for graduate credit, course 105— General Zoology. Elementary anatomy and physiology of insects; the life histories, habits, and control recommendations for the more important insect pests. Two hours of recitation and three hours of laboratory a week. Charge $1.50.

Course 229. Advanced Apiculture I. 3 semester hours. Each semester.

Prerequisite: Course 208. Requeening; fall management; winter management; honey extraction; central honey extraction plant; composition of honey; honey storage problems; uses of honey; marketing of honey; apiary site; brood diseases; diseases of adult bees; pests or enemies of colonies and bees. Two hours recitation and three hours of laboratory a week. Charge, $1.00.

Texts: "Beekeeping", by E. F. Phillips ($4.00), and "ABC & XYZ of Bee Culture", by E. R. Root ($2.75).

Course 230. Advanced Apiculture II. 3 semester hours. Each semester.

Prerequisite: Course 208. Honey plants of North America; pollen plants; beekeeping regions of North America; spring management; colony division or increase; swarm prevention and control; honey production; queen rearing and queen introduction. Two hours recitation and three hours of laboratory a week. Charge, $1.00.

Texts: "Beekeeping", by E. F. Phillips ($4.00); "ABC & XYZ of Bee Culture", by E. R. Root ($2.75); "American Honey Plants," by F. C. Pellett ($3.00); "Honey Plants of North America", by J. H. Lovell ($1.50); and "Practical Queenrearing", by F. C. Pellett ($1.00).

Actual practice in operating colonies of bees is given in the laboratory phase in these courses in apiculture. Class work many times is carried on in the apiaries of beekeepers living in the vicinity, which gives the students added experience in how and how not to operate colonies of bees.

Course 238. Problems in Entomology. Credit to be arranged (1 to 4 hours). Each semester and summer.

Prerequisite: Course 208.

Texts: The previously cited texts are used as references as well as other necessary special references which may be required in each case.

Following the courses in Advanced Apiculture, elementary research work, "Problems in Apiculture", can be taken by an undergraduate or graduate student. This usually is a small problem or phase of a larger one to be worked out by the student with considerable supervision by the instructor.

It is understood that these courses occur in a balanced program of education in the curriculum in the School of Arts and Sciences, as well as in the School of Agriculture. These courses as such cannot be taken satisfactorily without broadening and supporting courses, except by special permission of the Deans of the various Schools, which is an unusual situation.

For Graduate Credit

Course 316. Research in Entomology. Credit to be arranged (1 to 4 hours). Each semester and summer.

Prerequisite: At least two courses in this department.

Students working toward an advanced degree register in this course in apiculture for their major problem or thesis. This is primarily a research or laboratory course in which the student assumes all of the responsibility of a research problem of an extended nature; namely, for a Master of Science degree. Usually 8 to 12 hours' credit are allowed out of the 30 credit hours required for such an advanced degree.

If a student plans to take an advanced degree, other entomological courses are required for broadening in the field of entomology and also in other fields closely related to the major problem.

Equipment. The Kansas Agricultural Experiment Station maintains 24 colonies of bees, 18 of which are in standard 10-frame equipment. The other 6 are of the large size Dadant hive. The colonies of this apiary are used for class instruction, as well as experimental work. A two-story building is used for the storage of surplus equipment and for the extraction of honey. A work shop is maintained in connection with this apiary and building to aid in carrying out experiments. The necessary equipment is available for use in management problems, queen rearing, extracted honey, chunk and comb honey productions.

—R. L. Parker, Professor of Apiculture

Talks to Beekeepers

By M. J. Deyell

All beginners as well as experienced beekeepers are interested in knowing as much as possible about the inmates of the hive. Success in producing maximum crops of honey depends largely on a correct knowledge of bees and their behavior.

The following is taken from a sheet that we have used to supply information regarding members of the honeybee family:

THE CITY OF THE BEES

A colony of bees is a little city in itself. It has regular streets and alleys for the passage of its inmates and those streets are kept clean. In some respects it is like the human kind but in another way it is organized on a different scheme that has for its goal the survival of the fittest irrespective of ethical or moral rights.

The House the Bees Live In

The house (the bee city) the bees live in is air cooled, or more exactly "air conditioned," in hot weather. The temperature inside is always the same, no matter how oppressively hot it is outside. It is thought that for thousands of years bees have known and used the science of ventilation and air conditioning. The wise man has said, "Thou sluggard, go to the ant." If he had said, go to the bees, he would have been wiser.

In the bee city there is no mayor or city manager, no city council, no political boss and while there is a queen she does not direct its policies nor its destinies. Nevertheless in all the realm of nature there is not a more efficient organization. Its police force is the best in the world—not for regulating the inmates of the city, but to keep out the burglars, the thugs, and the racketeers. Let one of these approach the gates of the city, and be it the naughty boy or one of its own kind, he or she will be so severely treated that they will retreat in utter rout.

The inmates are all for one and one for all. There is perfect co-operation and unity of action. There are no jealousies, no strife for political preferment, no unions and no strikes. They co-operate and do not fight among themselves. They are intensely patriotic, and if need be will fight their enemies. Their prowess is not questioned by any living thing that creeps, walks or flies. Even man has a most wholesome respect for them. Man must deal with them if at all on their terms.

Their scheme for the division of labor is the best in the world. Every worker knows her precise job and does it without being told or shown by a superior, for there is no superior.

In this bee city there is no unemployment problem. Nor is there any unemployment or old age pension. None is needed. The population of the city is carefully regulated to the seasons and the amount of work to be done. This means, of course, a perfect scheme of birth control. When depression or a bad season comes the bee city stops raising more babies. When there is danger of the city starving the control bees will dump the half-grown babies (bees in the larval form) out at the city gate to die. If any of the full grown youngsters are crippled, sick or not fully developed, they, too, are shoved out of the city to die. In addition to all this, the old workers whose wings are worn out by toil are made to leave the city. If they do not go out voluntarily they are kicked out. What is the use, they say, of raising a lot of babies or cripples and keeping a lot of old folks that can't work any more? To feed the unborn and those that can't work might mean that all would starve. Every one works but father (the drone), and even he is ruthlessly kicked out when his services are no more needed.

If the queen does not rule or boss, what does she do? She lays all the eggs, one or two thousand a day, and if she falls down on the job she, too, is kicked out and another takes her place. The slogan is efficiency. If you don't work or can't keep up your end of the job in that bee city you shall not eat and so the halt, lame and inefficient must die that others may live; and so the slaughter of the innocents goes on. This, in short, is the political economy of the bee city. In some respects it may be emulated by man. In others, it is too cruel and heartless. Man wouldn't stand for it, but he will receive a dole, even though in many cases able to work.

Worker

Queen

Drone

Interesting Facts About Bees

There are approximately from 15,000 bees in the spring to 75,000 during the height of the season in the bee city known as a "colony."

The Queen

Normally there is but one queen-bee in a colony or city.

As a rule, two queens do not get along peaceably in the same city at the same time. One usually kills the other.

Queen mother and queen daughter may, however, live peaceably together for some weeks; but mother-in-law and daughter-in-law, never.

When two queen bees start fighting they not only try to sting each other, but they will pull each other's hair in real woman fashion. The queen stings only a rival queen.

A queen-bee can lay her own weight of eggs in one day. She will lay, in the first two months in the spring, from 300 to 1000 eggs in a day; and in the next month, or just before the main honey flow, she may lay 2000 eggs a day. She can be the mother of 100,000 workers (undeveloped females) in one bee-hive. If the old bees did not die off at the age of a month or six weeks in the height of the honey flow she might have twice that number.

The same egg that will produce a queen will produce a worker-bee in 21 days. The larvae of the worker-bee is fed a coarser food by the nurse bees in the hive and for that reason it is not developed into a perfect female like the queen and not so quickly. In this way the bees can of their own will produce either a queen-bee or a worker-bee from one and the same egg.

The Workers

The life of a worker-bee in the Northern States, where the winters are cold, may be six or eight months, extending over the less active season of the year—fall, winter and early spring. But a worker-bee hatched just at the honey-gathering season in summer is likely to wear out its wings and life in a few weeks in the intense work of filling the hive with honey. It often falls exhausted outside the hive and there dies. If it does not leave the hive the younger bees push it out of the hive as of no further use. If the old bees attempt to go back the young ones, without gratitude or conscience, pick them up, carry them on the wing perhaps half a mile and then drop them. They can't walk back. They can't fly back, and so they die.

The bees that gather the surplus crop of honey do not eat it. The bees that eat it did not gather it because the generations change so rapidly. But the colony lives on. The same rule applies in the human family.

The Drone

A drone, which is a male bee, has no father; but, strange to say, he always has a grandfather (a maternal grandfather). The queen-bee lays an unfertilized egg to produce a drone —a clear case of parthenogenesis, or virgin birth.

The drone-bee is not permitted by the worker-bees ever to live more than one summer season. He dies after mating with the queen, or is driven out of the city or killed by the worker-bees at the close of the honey-gathering season to save boarding him. He is a happy loafer, never working, always fed by others, a regular "man about town," until fall comes—and then suddenly nobody cares for father.

The drones are usually killed off or starved by the bees themselves

(Continued on Page 52)

Asked and Answered

The Double Brood Chamber

Question.—I plan to place a queen excluder on top the second brood chamber and thus keep the queen in two bottom supers, on the theory that she has enough room below. What do you advise?—G. C. Turner, Epperly, W. Va.

Answer.—It would seem that the double brood chamber could be used to good advantage in your state. At the end of the season, supers containing surplus honey are removed and all the honey in the double brood chamber is left for winter and early spring bee food. There is ample comb space in a double brood chamber for brood rearing, honey, and pollen to supply the requirements of the bees. This method simplifies apiary management and helps to insure an abundance of stores throughout the season.

Bees Gnaw Cells Down in Cell Building Colony

Question.—I grafted a stick of 12 cells and 11 were accepted and well fed and capped in due time. The honey flow was very light but I fed them about three pints of sugar syrup each day and I thought I would leave them with the cell building hive a few days and on the 6th day they had cut all down but six. Could you explain why they did that? The queen was below and the six frames of honey and brood raised above excluded. And do you have to have young grubs in the mating nucleus when the queen goes out to mate in order to keep the bees from going with her?—L. N. Steele, N. C.

Answer.—For a number of years the writer was associated with the late Mel Pritchard who reared queens for the Root Company during most of his life. We often discussed the various phases of queen rearing and Mr. Pritchard was often puzzled to determine the reason for the seemingly peculiar or abnormal behavior of bees at times. It seems that when a honey flow shuts off there is a tendency for bees to destroy cells in cell building colonies. One has to anticipate the changing situation and be ready to supply the proper amount of sugar syrup periodically in order to make conditions as nearly like a normal honey flow as possible. The sugar syrup should be of the right consistency. If I am not mistaken, Mr. Pritchard advised a sugar and water solution of 50-50. It seems preferable to have some brood in the queen-mating nuclei after you get them established in order to prevent most of the bees from leaving these small hives when the queens go out to mate. It is well to leave the mating boxes unmolested until the queens start to lay, if possible.

Spiders Around Hives

Question.—Spiders are taking charge of some of my hives. They are long legged grey looking fellows with a sharp head, and the bees all seem to go to the other side of the hive as if they were afraid of them. The spiders stretch their webs across in front of the hives. I have killed as many as five under the telescope covers, but have never known more than one at a time to be in a hive. What in the world can be done with such pests?—Lewis Salyer, W. Va.

Answer.—Spiders are not considered a serious pest in the apiary although just this morning a beekeeper from another state reported having trouble with them. Spiders usually are found underneath hives, or, on the top of inner covers. It would pay to have no openings underneath hives or between the outer and inner covers to admit spiders. When hives rest on hive stands that are properly made and if there are no openings underneath the hive stand, spiders cannot get in. We would like to hear from beekeepers who are troubled with spiders. We are not troubled with spiders to any extent, although we used to find spider webs in front of queen-mating hives in the morning when we reared queens near Medina.

Moving Bees Across State Line

Question.—Do you have to have a health certificate on all bees moved across state lines?—Emery Ray Naugle, Okla.

Answer.—In order to move bees from one state to another, it is necessary to get a certificate of apiary inspection from the state apiarist of the state from which the bees are moved, also a permit from the state apiary inspector of the state into which the bees are to be moved. In this way, there is a thorough understanding by all parties concerned. There are some states that do not permit the entrance of bees on combs.

Three vs. Two Pound Packages

Question.—I wish to start a number of hives with package bees. As between two pound and three pound packages, which has experimentation shown to be more economical in the long run? Is it practical to start from 15 to 25 packages at the same time in the same yard?—F. A. Ford, La.

Answer.—The three pound package appears to be preferable, especially in regions where the honey flow occurs in a relatively short time after the packages are installed

and where the honey flow is of short duration. In some regions of the West where the main flow extends over a relatively long period the two pound package has been found preferable. Yes, it is possible to start from 15 to 25 packages in the same yard, provided the hives are not too close together to cause the drifting of bees from one hive to another.

Granulated Combs of Honey for Package Bees

Question.—I intend restocking my hives with package bees. I have a sufficient stock of alfalfa and clover honey but by spring it will have granulated in the combs. Will this be satisfactory to put package bees on, considering that some cold weather may occur at our high elevation during early brood rearing?—Glenden Allred, Oregon.

Answer.—Combs containing honey that is partially granulated can be used for food for packages of bees. When the weather moderates in the spring, the bees will utilize the honey especially when they can get out of the hives for water. Alfalfa honey granulates quicker than clover honey, as you perhaps know.

How to Detect Pollen in Combs

Question.—How is it possible to determine the amount of pollen in a comb, as in most cases the bees only partially fill a cell with pollen and then cover it with honey?—R. E. Light, Va.

Answer.—It is somewhat difficult to determine, from a casual examination of a comb of honey taken from a brood chamber, just how much pollen is stored in the bottom of the cells. If you will hold the comb up to the light you can usually see some difference in the color, especially where pollen is stored. If you will take a match and break the cappings of a few cells, you can tell by inserting the match into the bottom of the cell, whether or not it contains pollen. As you say, bees usually half fill cells with pollen, then honey is stored on top of the pollen.

A Trailer for Moving Bees

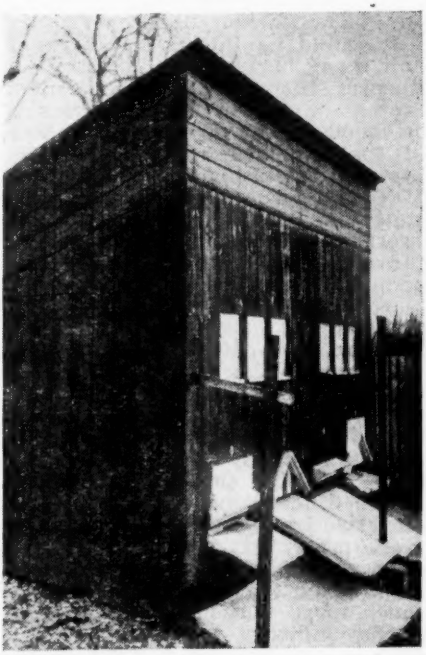
Question.—I built a trailer for moving bees and bee equipment. I've been told by different beekeepers that it should have springs and that it shouldn't have springs. What do you advise?—Robert M. Chapman, Pa.

Answer.—Regarding a trailer for moving bees, it would seem that any trailer should have springs that are reasonably pliable to take the jar off a load of bees or filled supers. A trailer is a handy piece of equipment, provided it is properly built and can be hauled conveniently behind your automobile.

Extracting Combs Not All Sealed

Question.—In my supers are 58 full-depth combs filled with honey but not all sealed at this late date, October 15. Will the bees yet seal the honey? Can it be safely extracted before it is sealed?—Manly C. Wareham, Ills.

Answer.—Even though combs of honey in your supers are not all sealed over, they should be extracted after being on the hives for a time. At the close of a honey flow, bees are likely to leave parts of combs uncapped. However, during warm weather the bees do drive off the excess moisture from the nectar in combs, even though all of the honey is not capped over. Nectar that has just been gathered is likely to be thin and shakes out of the combs when they are held flatwise and given a quick shake. Nectar in open cells that has been reduced down to the consistency of honey will not shake out of the cells. During wet cold weather it is impossible for bees to ripen honey in normal fashion but when the weather is dry and hot, bees ripen honey quite easily.



House apiary at Wick Lane, Bishop's Lydeard, West Somerset, England. Roof raised for running track and pulleys, also giving extra height for additional supers on hives. —From John Spiller, Taunton, England.

Editorials

Looking Ahead The past few years have been difficult for those connected with our industry. Shortage of labor and material has curtailed production, and yet, it is amazing what has been accomplished with the relatively small amount of help that has been available. Bee shippers, bee supply manufacturers, honey bottlers, and beekeepers have put in many hours of overtime to keep up production.

Now that the war is over more labor is available. However, bee supply material is still short. Many young beekeepers in military service are now returning to civilian life to take up beekeeping on a commercial scale.

All in all, future prospects for our industry are bright. We are glad to announce our return to a 64-page journal with this issue which will enable us to use more valuable material that accumulated during the paper shortage.

The Backlot Beekeeper

It would be interesting to know how many backlot and sideline beekeepers there are in the United States. A few years ago, it was said on good authority that over 90% of the beekeepers in New York State have less than 50 colonies and 57% of all the beekeepers in that state have less than five colonies of bees. Let us remember that some of these backlotters eventually become commercial producers.

National Meeting at Indianapolis The coming meeting of our National Federation to be held at Hotel Severin, Indianapolis, Indiana, January 15-17, should be well attended as Indianapolis is centrally located.

Considerable progress was made at the Chicago meeting a year ago. Reports from various committees were presented. Further work has been accomplished by these committees during the past year. There is much more that needs to be done.

Our industry needs to be knit closely together by a national organization.

The coming meeting at Indianapolis offers the opportunity of getting together to solve problems and to get better acquainted with each other. The program as given on page 43 means much work and planning by the program committee. Glenn Jones, our new Secretary-Treasurer, deserves much credit for his untiring efforts to make the meeting a success.

More Early Queens Needed During the recent Southern Conference meeting at Valdosta, Georgia, considerable discussion centered around the problem of producing a sufficient number of early queens to meet requirements of northern beekeepers, also those not so far north.

For example, in the latitude of Tennessee, Kentucky, Southern Missouri, and Virginia packages of bees with queens, to be most valuable from the standpoint of profitable returns on an investment the same season, should be put into hives quite early in the season—during late March.

Beekeepers in the far North—Manitoba and Saskatchewan—are asking for earlier delivery on packages than they did some years ago. The season in the prairie provinces, also the northern tier of states, is relatively early and comes on with a rush. Packages should be installed at least during late April in order to build up into colonies sufficiently populous to store the maximum crop from the major flow which usually begins the third week in June.

This adds up to the fact that more early queens are likely to be needed in the future than in the past. The main bottleneck in producing early queens is unfavorable weather. An early cold spell may destroy thousands of queen cells and prevent virgin queens from mating normally.

It has been suggested that all early queen rearing be done in the extreme southern states, or perhaps further South in Bermuda or Cuba. Queens could be airmailed from those islands to package shippers in southern states.

It is not so difficult to produce early package bees but producing early queens is another matter. We feel, however, that this problem will eventually be solved.

More Honeybees Are Needed As was brought out by a number of speakers at the recent Southern Conference Meeting in Valdosta, Georgia, the present honeybee population of the U. S. A., an estimated 5,466,000 colonies, is inadequate to meet present and future requirements.

As mentioned in the U. S. Department of Agriculture Bulletin E-584, issued in December, 1942, entitled, "The Dependence of Agriculture on the Beekeeping Industry," the honeybee is needed principally to pollinate many agricultural crops, including fifteen commercial fruits, a number of important vegetables and most of the legumes.

While there has been an increase of colonies of bees during the past five years of 25% which amounts to 5% per year, our country needs still more bees for pollination and for honey and wax production.

It is proposed that an increase of 8% in the number of colonies of bees be achieved during 1946. It is obvious that the sources of nectar throughout our country would support many more hives of bees than are now kept. As a matter of fact, most of our states should have more bees than the proposed increase calls for. Let us hope that for the good of agriculture and our beekeeping industry that the goal of an 8% increase in the number of colonies of bees in the U. S. A. may be achieved.

Honey Bottlers Are Essential Not since the latter part of World War I has honey been in such great demand. In some instances, where beekeepers retail honey at roadside stands or apiary houses they have been hard put to keep enough honey extracted and processed to supply the demand.

Honey bottlers have found it difficult, in some cases practically impossible, to procure enough honey to meet their requirements. This situation may not auger well for the future because bottlers must have a sufficient amount of honey on hand to keep their plants running and labor employed. Furthermore, their trade channels must be supplied or the demand may weaken. Some beekeepers have been criticized for retailing their crops instead of wholesaling. The small producers in thickly populated areas can hardly be blamed for retailing their honey. Some large producers may retail a part of the crop. However, most commercial producers are anxious to dispose of their honey as soon as it is off the hives in order to get their business wound up for the season. This really is good business. Producing honey is one thing—merchandising it is another. Rarely can an individual be successful in both fields at the same time.

When sugar is again available in quantity honey prices are likely to find a lower level. When that time comes beekeepers will realize, more than at present, the important service honey bottlers are rendering to our industry. **We need honey bottlers.**

Purple Brood In certain parts of the Southeast, principally in Georgia and Florida, a disease or malady known as purple brood is prevalent during the late spring and early summer months. The brood, as the name would indicate, turns purple or a bluish color and dies. In some instances the colonies die. The hives are greatly reduced in strength, which interferes with the normal development of populous colonies for the production of package bees and queens.

It is thought by some that purple brood is caused by the bees having access to some certain kind of nectar—possibly summer titi, because the disease is more prevalent at that time. Some scientific work will have to be undertaken to determine the cause of this seemingly strange malady. J. F. Reinhardt, of the Coastal Experimental Station, at Tifton, Georgia, has already included purple brood as one of his future projects.

Wrapping Colonies in Black Paper Many beekeepers throughout the North are using one or two thicknesses of black building paper, such as Siselcraft, to wrap hives of bees going into winter quarters. The black paper is said to absorb the heat from the rays of the sun and thus raises the temperature on sunny days underneath the paper.

Some beekeepers who previously packed bees with straw or chaff, between the building paper and the hive, are now omitting the straw, packing only with the black paper. It would seem that a reasonable amount of coarse chaff underneath

the paper would have some insulating value.

This winter we are conducting an experiment of packing a limited number of hives in building paper to be compared with a similar number with no packing whatever. These colonies have already been weighed and we expect to weigh them again next spring during early April. We shall report the results of the experiment.

An Abundance of Pollen is Needed

In certain sections of the country there is said to be a shortage of pollen. Generally speaking, in wooded areas there is ample pollen In sections of the country where there are few trees or shrubs, such as the Plains Area, there would naturally be a shortage of pollen at certain seasons of the year. Where dandelion is plentiful, an abundance of pollen would be collected from this source for a short time provided the weather would be suitable for bee flight.

We get reports occasionally from beekeepers who say that the combs in their hives are full of pollen, in fact, they think they have an overabundance of pollen. Such beekeepers are fortunate and may not realize it.

Authorities now say that each colony going into winter quarters, especially in the North, should have the equivalent of five or six solid combs of pollen. This amount is calculated to carry the bees through the early spring, until fresh pollen is available early in the season.

In some regions it is necessary, during the spring months, especially during spells of cold weather, to feed pollen substitutes or supplement in order to have the bees continue brood rearing during the critical period preceding the major honey flow. Some are now trapping pollen during the active season to have it available the following spring to mix with soybean flour for feeding bees. It is very necessary that queens lay to their maximum capacity for five or six weeks prior to the beginning of the main flow in order to have the hives filled with bees to take full advantage of the main honey flow.

When beekeepers write in saying they have too much pollen in their hives, we tell them not to worry and that they should be thankful, because plenty of pollen is needed for maximum brood rearing. It is amazing how pollen will disappear in the spring during a long rainy spell. Approximately one pound of pollen is needed to produce one pound of bees, according to reliable authority.

Large vs. Small Apiaries

A few years ago, there appeared to be a tendency among commercial beekeepers to maintain rather large apiaries, around 75 hives, and in some instances over 100, in each location. In most areas where there is an abundance of pollen and nectar and where a location is not already overstocked with bees, it is possible to maintain a sizable apiary. As has been brought out in these pages just recently, 100-colony apiaries, spread over a territory, four miles apart, would each have approximately 10,000 square acres of foraging space which, of course, would include roadways, buildings, etc. This would amount to about 100 acres of foraging space for each hive of bees in each 100-colony apiary. It would seem, therefore, that overstocking a location with bees may not be a common occurrence.

The tendency at the present time is to maintain a relatively smaller number of hives in each location. Obviously, there is an advantage in this especially from the standpoint of a more thorough coverage of bee pasture available in any locality.

From the standpoint of pollen, which is now considered so necessary, it seems likely that the colonies in relatively small apiaries of, say, 30 or 40 colonies each, would secure more pollen than the colonies in yards numbering 100 hives, provided the smaller yards would not be too close together.

From the standpoint of more thorough pollination of legumes, fruits, and vegetables, it seems preferable to have more apiaries over any given area, rather than fewer large apiaries.

Some commercial beekeepers who have tabulated results in honey production from large and small apiaries have come to the conclusion that the smaller apiaries are preferable.

American Honey Institute News Notes

Commercial State Bank Building, Madison 3, Wisconsin
Harriett M. Grace, Director

May the new year hold everything good for you and your family.

1945 was a year that demanded extraordinary patience. In spite of paper shortage, labor shortage, and turnover in office help the year went too fast.

* * * *

The **Institute** gave you the following pieces of literature in 1945:

Revised and Enlarged Old Favorite Honey Recipes (120,000 copies).

Honey—a twelve page booklet on the nutritional value of honey.

Honey Specialties for Bakers.

Honey and Cereals

Honey to Start the Day Right.

National Honey Week leaflet.

Calendar for 1946. (There are some left at 50 cents a hundred.)

Chocolate Cake by Mix-Easy Method.

Use Honey for Canning and Preserving (Revised).

Jellies and Marmalades made with Honey.

* * * *

Do you advertise? If so, it should pass these tests:

Is it true?

Is it important?

(It may be true but not important)

Is it of the moment?

* * * *

The growth of the **American Honey Institute** in its service to the nation and in its status in the nation during the past six years is fabulous. No effort, physical or mental, has been spared to attain this goal and no effort will be spared to hold it.

* * * *

Here are a few things to think about:

What kind of a label have you? Does it appeal to the women? You know there are fifty million of them in the United States. Do you know that they own 70% of the nation's wealth and 40% of the homes? They have an extraordinary potential power.

What do you desire to have a customer see at first glance at a label? Is it the word "honey", your trade name, the name of your firm, or the flowers or picture of bee hives? A unique label has gained distinction for many a product.

* * * *

The following letter is one of many that has come to the Institute:

November 27, 1945
San Diego 9, California

American Honey Institute
Madison 3, Wisconsin
Dear Sir:

Do you still publish "Old Favorite Honey Recipes?" I was given a copy some years ago and I have enjoyed the recipes so much that I should like to give it to friends as Christmas remembrances.

It gives the price as 10c. Will you send me information as to present price and whether it is still published?

Sugar rationing made it necessary for me to use honey, but after using it in a great many ways, I'm an ardent user on its own merit. I have found the cookie recipes especially fine and others have asked me for them.

Thank you so much for publishing such a helpful folder and I will appreciate any information concerning the recipe book.

Very truly yours,
Mrs. C. R. W.

* * * *

The Annual Directory will soon be published. Will your name be in it? Remember that the **American Honey Institute** functions to promote the use of honey, not only for the advancement of the honey industry but for the welfare of mankind.

* * * *

Does your package carry a honey recipe and does it say "additional recipes may be secured by writing to the **American Honey Institute**, Madison 3, Wisconsin."

* * * *

Which will mean more to you in the future—one customer who buys a sixty pound container of honey or twelve customers who purchase five pound containers? Have you a honey label on that sixty pound container?

Why does the **Institute** receive so many letters around March first asking what to do with a sixty pound container of honey that has granulated or fermented? Is it because the housewife just cannot and should not lift sixty pounds? Is it put in the basement and forgotten because of this?

Should there be a statement on the label telling how to liquefy and how to store honey?

From North, East, West and South

N. CALIFORNIA, December 5

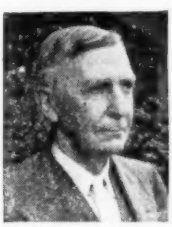
Weather: Our first rain of the season came in October, and since then almost every day. Some showers have been very light and some heavier; mostly light, for the rainfall is only half of what it was at this time last year. The grass has a good start. While it is too early to show much effect on honey plants, it will do them no harm and, if it continues, will give them a good start for the season. Here in the Bay area, where we depend almost wholly on eucalyptus for our crop, we don't worry so much about rain as we would if we were depending on smaller plants. Beekeepers tell you they can depend on a good crop from eucalyptus every four years. There is a prospect for a good crop this year. Very few bees will have to be fed. Beekeepers who failed to give their bees proper attention at the end of the season may tell a different story.

Condition of Bees: As a rule we hear there was improvement in every part of our territory last season in putting away bees for the winter. If this was true, we may expect better results in the spring. During the producing season there was little change. The dusting by airplanes of poisonous insecticides killed the usual number of colonies. Floods and fire did their share of deadly work. The war is over, but there is still a shortage of "Good Will to Men." Due to the energy of our leader of inspectors, H. M. Krebs, we have little disease.

Markets: There is little honey of any grade in the hands of producers. Buyers are busy, but they have learned the new way, and there is not the confusion of the past few years. We hear much of the changes taking place for better beekeeping in the future. But here is a new one! Beekeepers are getting out of debt. One of our leading beekeepers said to us: "One of the reasons for poorly put up honey is debt. I have been in debt the most of my life, and have had charges made against me that were unpleasant. The cause was debt. Better prices for honey the past few years have made it possible for me to get out of debt, and from now on the market will get no objectionable honey from me."

Miscellaneous: Good attendance at our winter meetings has been the rule. The Alameda County Beekeepers' Association has set an example worthy to be followed by others. At their meeting in October, they appointed five members to visit the Demonstration Apiaries of the University of California at Davis, and hear a talk on queen raising by Dr. J. E. Eckert, and to give their report at the November meeting. On November 26 the report was made, showing plainly that this was another step in advanced beekeeping for Alameda County.—Cary W. Hartman, Oakland, Cal.

SOUTHERN CALIFORNIA, Dec. 3



Happy New Year to all. With one of the shortest honey crops in our history we have many things to be thankful for. No one is suffering and beekeepers will get on and hope for better crops in the future.

Conditions: Reports on the condition of bees for winter vary from plenty of stores to the need of feeding. This condition was brought about by the abnormal season. Some beekeepers produced 40 pounds per colony while others only a comparatively few miles away did not turn the extractor. We hear little or no discouraging talk and one good crop season is all it will take to make beekeepers happy again.

Just what is the future of the great natural bee ranges of California and Southern California in particular is not easy to prophesy. Many thousands of acres of our sage, wild buckwheat, sumac, deer weed, and other natural honey producing ranges have given way to the plow in the last few years since war prices on all kinds of grain have skyrocketed. Other thousands of acres have been burned over. The first mentioned is lost forever to the beekeeper while the burned over country takes many years to come

back and some of our oldest beekeepers say it never is as good as before it was burned. A few years of copious rainfall does wonders for some of the burned plants, such as the white sage, which roots deep and even when the above ground parts are burned the roots send up new shoots and often make a remarkable growth.

Market: There is plenty of demand for honey and wax at ceiling prices with little or none in the hands of the beekeeper.

The weather is delightful but not satisfactory to the beekeeper. With practically no rain to date in the southern counties of the state the prospects are not at all encouraging. When we have less than six inches of rain before January first the prospects are not favorable for a honey crop. While we still hope and never give up until the reports are all in nevertheless it is discouraging.

Miscellaneous: Migratory beekeepers who moved to the thistle report unsatisfactory results in many cases, some getting only a fill up while others got a little surplus. A great number of beekeepers moved this year from Southern California to the northern parts of the state as well as to eastern and northern states and give different reports as to the success of the venture. We feel safe in saying that the great majority of these beekeepers who move long distances in search of richer fields would much prefer to remain on the home ranges where the prospects may not be quite as good for honey. —L. L. Andrews, Corona, Cal.

PENNSYLVANIA, Dec. 6

Conditions: In general, beekeepers throughout the State have enjoyed a good year. The spring was cold and backward after a very warm spell in March which caused bees to start building up very rapidly with the result that many colonies starved and others were weak at the time the honey flow started. Clover was very abundant. However, a better than average crop was secured in spite of the unfavorable spring. Buckwheat also yielded well in the sections where it is grown. Some beekeepers have reported the largest per colony average in over 25 years.

In many sections of the State the fall flow was not very heavy due for the most part to excessive rains, and bees are going into winter somewhat shorter in stores than we would like to see, and in some cases the stores are not of too good quality. In practically all cases there are ample clusters of bees. If we have a warm open winter, heavy feeding may be necessary next spring.

Prospects: Honey plants appear in fair condition now but the kind of winter we have from now on will largely determine their condition next spring.

The demand for honey has been very great and practically all of the crop has already been disposed of. Most producers in this State sell their honey locally. Interest in beekeeping is high and there is quite a demand for bees. Many packages will be bought next spring if they are available and if supplies are available.—P. G. Craddock, State College, Pa.

KANSAS, Dec. 8

Weather: The average rainfall for September, October, and November was from one to two inches below normal for each of these three months. The condition is beginning to deplete the soil moisture. The temperature was average to slightly below normal during October and November. On the whole, the fall has been quite favorable for bee flights. There was from ¼ to ½ inch of rainfall in northeastern Kansas on Dec. 1.

Condition of Bees: In most cases, colonies were strong in bees in going into winter. In central Kansas there was a smartweed honey flow during August and September. This honey flow built up colonies to good strength. In eastern Kansas, anticipated honey flows did not materialize, due to dry weather. In some instances, queenlessness in colonies appeared during October, probably as the after effect of the large crop production during the summer.

Plants: The condition of honey plants appear to be good, but, with the soil gradually drying out, there may be some injury to the plants for next season's honey flow. White sweet clover and white clover plants are in abundance in eastern Kansas, as are white sweet clover

and alfalfa in the central and southwestern parts of the state. Soybeans have not been planted as extensively in this state as in some states east of here, thus white sweet clover and alfalfa have not been displaced.

Honey Crop: In northeastern Kansas, white clover yielded heavily for the first time since the beginning of the drought period of 1932. There was a combination crop of white clover-white sweet clover from this area, which crop was larger than normal. In southcentral Kansas, the white sweet clover-alfalfa crop was the largest which has been produced in that area for many years. For the whole state, there has been an approximate 15 percent increase in crop production for 1945.

Honey Market: Wholesale and retail sales of honey are still active. Honey sales have been near ceiling or at ceiling prices.

Miscellaneous: The Kansas State College Farm and Home Week will be held this year during the first week of February. The beekeepers' program will be held Thursday, February 7, 1946.—R. L. Parker, Manhattan, Kans.

FLORIDA, November 30

Weather: We have had fine Florida weather in October and November. There were three frosts here at Gainesville during November, but not enough freezing weather to do any damage. During summer and early fall there was a shortage in rainfall in some localities, which resulted in some of the fall honey plants failing to produce nectar.

Crop: It is estimated that bees in Florida produced 9,283,000 pounds of honey in 1945. While this is about one million pounds less than was produced in 1944, it is still a fair crop. The orange and saw palmetto honey flows were rather spotted; some locations were fair and others poor. The 1945 tupelo flow in west Florida was better and the quality higher than it was in 1944.

Market: The demand far exceeds the supply.

Condition of Bees: In general the bees are in good condition. There are a few sections where the fall honey plants failed and the beekeepers will have to feed some of their bees. The price of honey tempts beekeepers to take too much honey from the bees. I think a number of beekeepers learned a lesson last year in regard to this and left more honey on the bees this year.

Miscellaneous: The return of service men is relieving the labor shortage to a certain extent.—Robert E. Foster, Gainesville, Fla.

IOWA, Dec. 6

Conditions: In central Iowa, the season was erratic, very cool most of the time, and too much moisture the fore part of summer. Bees had a hard time of it in early spring during dandelion and fruit bloom. It was so cool bees never left the hive only on occasional days, which held up brood rearing, so badly needed at that time of year.

In spite of adverse conditions bees stored considerable honey, the bulk of which was obtained from white clover which bloomed profusely and was loaded with nectar owing to the ideal weather conditions. Most beekeepers were surprised at the amount of honey the bees stored after having such unfavorable conditions earlier in the season.

Market: There has been some excellent clover honey on the market. In fact the market has been well supplied ever since the honey was ripe enough to remove from the hive, and grocers' shelves are still well stocked. There is now more amber honey on the market than light, and selling at the same price as the clover which is a little out of the ordinary. The shortage of sugar is likely the reason for this.

Prices range for extracted in 5-lb. containers from $1.19 to $1.25 and from 32c to 35c for 1-lb. jars, comb honey from 32 to 35c per section. With the sugar shortage likely to continue we see no prospects of honey selling any cheaper, at least for this year's crop. Some of the larger beekeepers expect to be practically sold out by the first of the year.

All honey being offered in Marshalltown, Ia. is produced by Iowa beekeepers as far as I have been able to learn with but one exception, I did see some Texas honey. It got a long way from home.

Miscellaneous: Some beekeepers were able to get some sugar for winter feeding. However in some

instances it was hard to convince the rationing board that beekeepers needed the quantities asked for. Most of those on these boards know little or nothing about bees or what is needed and some of the beekeepers were held up on sugar they should have had at least a month before they could get it. However the fall has been a fine one and likely the bees have been able to clean the feeders and get snug for winter. At least we hope so.—W. S. Pangburn, Marshalltown, Iowa.

VERMONT, Dec. 7

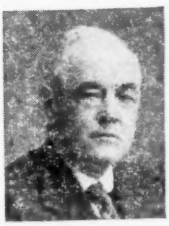
Weather: It has been quite some time since this news item from Vermont has appeared in this column. As far as weather is concerned, it has been unusual as usual this year, unusual in the excessive amount of rain this spring and fall. In spite of the set back this spring due to starvation and shortage of stores, we have had an average crop. The wet fall has held up preparation of bees for winter some but now that bees are all packed and taken care of, the rain is just uncomfortable. Credit for an average crop is due to the abundance of alsike clover this year. It bloomed just about everywhere, old and new meadows, and seemed quite generous in nectar secretion. Since we do not get any fall honey anyway, the fall rains didn't have any influence on the fall crop. An average amount of feeding had to be done and while sugar was hard to get, most beekeepers, one way or another, did get enough to feed their bees.

Market: Needless to say, the market for honey has been very strong and it has been a big problem to know just how much honey the customers should get, who in turn wanted two and three times their normal supply. While it is nice to have such a strong market, still it is pretty hard to refuse honey to people you would like very much to supply.

Miscellaneous: While demand for honey has increased, the help to produce it has, if anything, decreased. We are looking forward for help to the boys who have been away to the war and no doubt some of these boys are anxious to get back into the bee yards again. We are expecting one such fellow and hope next season the problem of experienced help will be solved.

At the present rate of shipping, our crop will be all sold by January 1 and with not much to do for a couple of months we are looking forward to a trip down to Florida again for a rest. There is a limit to working 16 or 18 hours a day.—Charles Mraz, Middlebury, Vt.

ONTARIO, Dec. 7



Weather: This is Dec. 7th, and to date we have had a very mild fall season with an abundance of moisture. While winter wheat in many fields has a rusty tinge indicative of too much rain, clover does not seem to have been similarly affected.

We have just returned home after attending the annual convention of the Ontario Beekeepers' Association, and while we had anticipated a much smaller attendance than usual, we certainly were surprised to find a big crowd present, especially on the second day of the meeting.

Honey Crop: All reports of the past season's operations confirm the opinion previously expressed, that 1945 was about the poorest honey season here in Ontario that we have on record. But true to the traditional optimism of beekeepers, they are looking for that good crop to come in 1946, writing off the experiences of 1945 as water that has passed under the bridge and gone forever, so why worry?

Anxiety was, however, expressed from many quarters about the decreasing sources of nectar, especially in view of the now undisputed fact that alsike and alfalfa are not secreting nectar as in former years, and what is still more disturbing these clovers are not producing seed on a paying basis to the farmer. As a natural sequence acreage is decreasing each year.

Market: As to the honey market, that problem is solved for there is very little honey to be sold. Many stores have no honey, and what is

for sale is mostly in small containers.

Changes have recently been announced from Ottawa, regarding some minor changes in rationing sugar and all preserves, including honey, effective in the new year. No change in sugar except that one coupon instead of two as in the past, will cover sugar, preserves, syrups, and honey. No increase in value for sugar, which will remain at a pound for each coupon, but four pounds of honey can be purchased instead of two pounds, under the new regulation. If the crop for 1946 should be heavy, this extra allowance of coupon value would no doubt be of great value in encouraging honey sales.

Miscellaneous: While the problem of having bees drift when taken out of four colony cases in the spring, is rather unseasonable to discuss at this time of the year, in view of the fact that a recent editorial in Gleanings mentioned this problem as a bad feature of this manner of packing for winter, we feel like offering a suggestion to help out a bit, to those who have had this difficulty. Formerly bothered with the drifting problem when cases were taken away and hives placed on their summer stands, we at least solved the trouble by simply lifting each hive out of the case and placing it directly in front of the entrance of the case, providing, of course, a temporary hive stand for the summer. Yesterday at the Convention, Mr. Long of Ohio, who was with us, and who uses the quadruple case in wintering thousands of colonies, stated that this feature of drifting was the worst trouble they had to encounter. We use a hundred or more of these cases because we happen to have them, but frankly do not like them very well.

By the time this is in print, the Christmas season will be past but we cannot close these notes without once more wishing to all the readers of Gleanings a Very Happy and Prosperous New Year.—J. L. Byer, Markham, Ont.

Moving Bees Without Screens

By T. J. Rowe

There has been some discussion as to how the western beekeeper moves bees without stopping the entrance and screening the tops, and as different beemen use somewhat different methods in loading and time of loading, etc., it would require a long story to explain them all.

We have had more or less experience in moving bees over three states of the Northwest and here where a great many do a lot of moving one can easily find different methods.

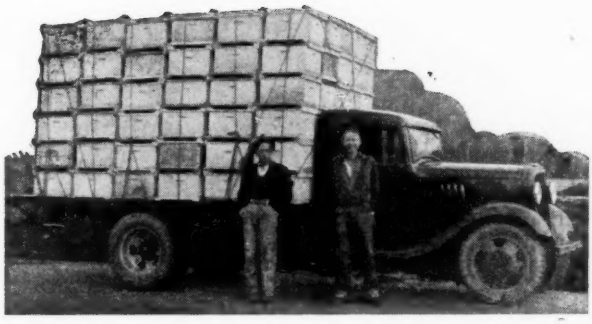
We like to get to the yard about three hours before dark, for various reasons, but more often than otherwise we get there about one half hour after sunset and go to loading immediately. If colonies are one story (which they seldom are) or nucs, one man stays on the truck. We set the colonies four wide, frames crossways of the truck, the two inside rows set back to back, the outside rows face entrances out. Four to six colonies high is the usual practice on flats, and with a bed on the truck eight by fourteen feet this will allow a load of 150 colonies.

The front end of the truck bed must be so constructed as to allow free circulation of air the full length of the load and by the above method the circulation of air will be adequate.

We do not usually nail on the bottoms and no other preparations are made. Just see to it that the colonies set even and tight against each other and they will cause no trouble if properly roped.

Two-story colonies are seldom set over two high because of the inconvenience of lifting them that distance. If bees are moved in the fall with full winter stores, which we avoid when possible, there will be a good heavy load and plenty of lifting for two men.

In roping these we have hooks attached to the underside of the truck bed (we use cold shot links opened sufficiently to allow the entrance through the link of a one half inch cotton rope) the proper distance so the rope goes over the center of each row of hives. We loop the rope on one end, attach it to the link and



Almost 150 hives of bees securely tied on to the truck body already to go to better pastures.

throw it over the first row of hives, put it through the link on that side and one man takes up the slack while the other takes a hold on the rope about three feet above the link and pulls out and down. By this method the job of roping is a very tight one. Then the rope is dropped back to the link at the center of the next row and thrown over the load and tightened again and so on to the last row. It takes about 150 feet of rope for a full load.

In the migratory sections where considerable moving is done, the above method is used for all bee yard work in loading supers and supplies going to and from locations, and is by far the most practical method we know of and things stay where put.

If we are moving a full load it takes about two hours to load and then if convenient we drive home and to bed about twelve o'clock (midnight). Next morning about sunrise or shortly thereafter we start moving and if moving several hundred miles we provide an auxilliary gas tank for the trucks and do not stop during the daylight hours. If bees are hauled two hours or so before it becomes warm enough for them to fly they will gradually quiet down and the loss from bees leaving the load is so small that we have never noticed it.

If the weather is too warm, around 90, it will be a wise plan to stop a few minutes at least twice a day and throw a dozen or more pails of water over the load; otherwise if the bees have lots of brood in the combs they may get over thirsty and start pulling brood.

When convenient we jump at the chance when a rainy or cloudy day comes and move bees then when a lot of moving hazards are avoided.

If it becomes necessary to stop for truck repair, stop if possible outside of town. If the weather is fair and flowers in bloom, remove the ropes and set off the outside rows. The two inside rows setting back to back will fly normally as will also the bees on the ground if unloaded promptly. This method saves a lot of work in unloading only half the bees in case of emergency.

Last spring when one load of our bees had moved 600 miles it was stopped by the hi-way department for weighing. I happened to be ahead of the truck loaded with bees and told the men at the weighing station they would have to suffer the consequences if they wanted to weigh that load as it was warm enough for bees to fly. However, they insisted and we left enough bees there to make things plenty interesting for several days, so I was told later by a bus driver who also had to stop there each day for weighing. The next load through there was a different story. They told us in no uncertain language to keep going.

Last spring a friend of mine hauled 4000 colonies 700 miles. Not a colony was nailed or screened in any way. His gross load on the biggest truck weighed 19 tons, and with the above method of roping he experienced almost no trouble. Sometimes we have to take up a slight amount of slack in the rope if precautions have not been taken to see that the colonies in each row fit snugly together, when loading.

Arlee, Montana.

Just News

The Nebraska Honey Producers' Association will hold its annual meeting during the week of Organized Agriculture, February 4, 1946. Election of officers and speakers will make a full day. All who are interested are invited to attend. The Ladies' Auxiliary will hold their meeting the same day. If facilities can be obtained it is planned for both groups to attend noon luncheon together.—Mrs. Henry Puppe, Sec.

The Ohio State Beekeepers' Association is scheduling their Winter meeting in conjunction with the Ohio Farm and Home Week, February 5, 6, and 7, at the Ohio State University, Columbus, Ohio. The Beekeeping Section will cover the three days with the banquet scheduled for the evening of February 6. Out-of-state and Ohio speakers will furnish talent to cover post-war problems confronting the beekeeping industry.—W. E. Dunham, Extension Apiarist.

Mrs. Joseph Schrock, of Berne, Indiana, wife of a commercial beekeeper, was burned to death on November 28 in an automobile while she and her husband were visiting an out apiary. It is supposed that the fire was caused by a bee smoker.

The Wyoming Beekeepers' Association met on November 19 and 20 at Casper. Guest speakers were R. F. Remer, Sioux City, Iowa; Glenn Jones, Atlantic, Iowa; F. L. Swanson of The A. I. Root Co., Council Bluffs, Iowa; and George Harston, Powell, Wyoming. Officers elected were: Herman Rauchfuss of Worland, President; Sterling Johnson of Lovell, Vice-president; and Herbert B. Addleman, Secretary-Treasurer.

The Southeastern Washington Beekeepers' Association, at a meeting held November 16 elected W. H. Bristol, Lewiston, Idaho, President; George Smith, Clarkston, Wash., Vice-president; and Mrs. Glen Miller, Clarkston, Secretary-Treasurer.

The York-Cumberland Beekeepers' Association of Maine held its annual meeting on November 18. The following officers were elected: Chester A. Merrill, Portland, President; Walter Gerald, Portland, Vice-president; and Dr. Horatio C. Meriam of Bar Mills, Secretary-Treasurer.

The Twenty-Fourth Annual Short Course in beekeeping will be held at the University of Manitoba, Winnipeg, on January 14 to 25, 1946. The lecturers are A. V. Mitchener, L. T. Floyd, and W. S. McLeod. The tuition is $5.00.

The New Rochelle Beekeepers' Association will hold its first meeting of the New Year at the home of Mr. and Mrs. James A. Bailey, 18 Burling Lane, New Rochelle, N. Y. on Sunday, January 20, 1946, at 2:30. Election of officers for the coming year will be the order of the day and all members are urged to be present. Refreshments and a social hour will follow the meeting.—A. M. Barnes, Asst. Sec.

The Annual Meeting of the Empire State Honey Producers' Association will be held at the Onondaga Hotel, Syracuse, New York, on Friday and Saturday, January 25 and 26, 1946, starting at 10 A. M. A good program has been arranged. All beekeepers, families and friends are invited.—E. T. Cary, Sec.-Treas.

The 43rd Annual Meeting of Pennsylvania Beekeepers' Association will be held in the Education Building in Harrisburg on January 23 and 24. Out-of-state speakers will be Glenn O. Jones, Atlantic, Iowa, and A. D. Hiett, Lynchburg, Virginia. A rich program and turkey dinner are in store for all who attend.

The Washington State Beekeepers' Association met on December 4 and 5 in Wenatchee with an unusually good attendance from all parts of the state. The report of our chief state bee inspector. Geo. N. Paige, showed a marked improvement and the most thorough inspection the state has ever had. Constructive work is in progress for a Standard of Performance for bees in commer-

cial pollination; also for a "clearing house" for more efficiently locating colonies with the orchardists. Bees for pollination have to be moved 100 to 200 miles. The prewar custom of holding a meeting and picnic in midsummer at Lake Tipooe, near the summit of Natchez Pass will be revived. It is hoped the snow will be melted by late July. Our next annual meeting will be held on Dec. 3 and 4, 1946, in conjunction with the State Horticultural Association. Our meeting will be in circuit with the Oregon State Beekeepers' Association, which will meet on December 6 and 7, 1946. The elected officers for 1946 are: President, H. S. Records, Everett; Vice-president, Mrs. Glen Miller, Clarkston; Secretary-Treasurer, Howard Graff, Bow.—H. S. Records,.

The Oregon State Beekeepers' Association held its annual meeting in Portland on December 7 and 8. There was a much better attendance than usual, with several Washington State beekeepers present. Re-elected as officers for the coming year were, H. J. Moulton, President; Callie M. Burt, Vice-president; and John D. Burt, Secretary-Treasurer. Lewis M. White of Portland was elected as delegate to the National Federation meeting. Speakers at the meeting were Dr. H. A. Scullen of the Oregon State College, L. P. Rockwood of the Bureau of Entomology and Plant Quarantine, and E. R. Jackman, Extension Specialist in Farm Crops, Corvallis, Oregon. Many of the attending beekeepers reported an increased interest in the use of bees as pollenizers in orchards and field crops. Reports of poison damage the past year were quite numerous. The Association plans to work with the fruit and seed growers to correct some of the damaging practices, and to seek legislation if necessary.—John D. Burt, Sec.

The New Jersey Beekeepers' Association will meet on January 24 at Moose Hall, Trenton, at 9:30 A. M. for a full day's program including talks by Jas. I. Hambleton, Beltsville, Md., William J. Sonderman, Lincoln Park, N. J., Everitt C. Rulison, Washington, N. J., and Miss Dorothy Lauer of Trenton, concluding with a beekeepers' dinner with Curtis A. Wightman presiding.

The Annual Meeting of the National Federation of State Beekeepers' Associations will be held at the Severin Hotel, Indianapolis, Indiana, on January 14, 15, 16, and 17, 1946. Following is the program:

Monday, January 14

9:30 A.M. Executive Committee
Resolution Committee
1:30 P.M. Research & Extension Apiculturists
3:30 P.M. Apiary Inspectors of America
8:00 P.M. Board of Directors,
American Honey Institute

Tuesday, January 15

9:00 A.M. Registration—continuous thru meetings
Business meeting of following committees:
Honey and Pollen Plants
Veterans' Rehabilitation
Beekeepers' Rights
Uniform Caps for 60-lb. Cans
Quality Honey
Research
10:30 A.M. National Honey Association
Bee Supply Industries Asso.
1:30 P.M. Business session of National Federation
Financial and General Report of the Secretary-Treasurer
Announcement of Convention Committees
Report of Committee on Unlform Caps for 60-lb. Cans
2:00 P.M. American Honey Institute Hour
Lewis W. Parks, President
Harriett M. Grace, Director
3:00 P.M. What We May Expect from DDT
Dr. C. W. Kearns, Department of Entomology, Uni. of Ills.
3:30 P.M. Recess
3:45 P.M. Research Committee Report and Open Forum Discussion
Ralph W. Barnes, Chm., Neb.
Newman I. Lyle, Iowa
J. W. Newton, La.
E. J. Dyce, N. Y.
R. L. Parker, Kans.
Howard Potter, Mich.
C. L. Farrar (Advisory), Wisc.
8:00 P.M. American Beekeeping Council (Formerly Beekeeping War Council)
8:00 P.M. National Beekeepers' Auxiliary

Wednesday, January 16

9:00 A.M. Suggested Future Program for American Beekeeping Council (Formerly Beek. War Council)
Woodrow Miller, Pres., Calif.
Roy Grout, Sec., Ills.
John Paton, Chm., Washington Committee, New York
9:30 A.M. Solving the Problems of Beekeepers, James I. Hambleton, Chief, Bee Culture Laboratory, Beltsville, Md.
10:10 A.M. Veterans' Rehabilitation Committee Report
Elmer Carroll, Ch., Mich.
10:30 A.M. Recess
10:45 A.M. Beekeepers' Rights Committee Report and OPen Forum
Dr. J. E. Eckert, Ch., Calif.
Jas. E. Starkey, Ind.
E. G. LeStourgeon, Texas
Dr. R. B. Friend, Conn.
Orville Wixom, Wash.
J. K. McClaugherty, Colo.
1:00 P.M. Annual address of the President, J. W. Holzberlein Jr., Col.
1:30 P.M. Report of Convention Com.
Auditing

(Continued on page 53)

Southern States Beekeepers' Federation Meeting

By M. J. Deyell

The annual meeting of the Southern Federation held jointly with the Georgia Beekeepers' Association, also the Florida Beekeepers' Association at Valdosta, Georgia, December 13 and 14, 1945, will go down in beekeeping history as one of the most important and well attended meetings ever held. Over 200 people were present, representing 20 states.

The sessions during the first day were ably handled by the President of the Southern States Beekeepers' Federation, G. G. Puett of Hahira, Georgia. Following some preliminary reports, **Jas. I. Hambleton,** Director of Bee Culture Laboratory, United States Research Administration, Beltsville, Maryland, spoke on "Effect on Bees from Use of DDT." It seems that DDT does not kill all kinds of insects. It does control the Japanese beetle. An experiment carried on recently in an apiary adjacent to fields of cotton where the hive covers were removed temporarily while a 5% solution of DDT was sprayed over the hive, showed that the solution killed a very small percentage of bees. Mr. Hambleton emphasized the fact that DDT has to be used correctly, that we should not reach conclusions too early and that it seems possible that DDT may actually help beekeeping in the future.

Harriett M. Grace, Director of American Honey Institute, Madison, Wisconsin, gave an inspiring and interesting address outlining the activities of the Institute, especially during the past year. The Institute is in business primarily to promote the use of honey; 400,000 copies of the book "Old Favorite Honey Recipes" have been sold during the past year. Over $10,000.00 worth of printing was done and over 2,000,000 leaflets on honey were mailed within a year. The Institute keeps closely in touch with home demonstration agents throughout the country, also newspapers with reference to releases on honey. Mrs. Grace emphasized the fact that women do most of the buying and it is necessary in merchandising honey to make the proper appeal. People who handle and sell honey should be enthusiastic because "people may be pessimists when they buy but they always want to buy from an optimist."

Mr. Guy LeStourgeon, Editor of the Beekeepers' Item, was scheduled for an address but unfortunately he was unable to be present.

Harold J. Clay, Chief of the Honey and Peanut Section of the United States Department of Agriculture, Washington, D. C. said we must have more bees throughout the country for pollination and that the Government is urging at least an 8% increase in the number of hives of bees during 1946. During the past five years an increase of 25%, or an average of 5% has been attained. Mr. Clay said that we should have no trouble in selling honey during the next few years but we do need a few people to work on the problem of the future market of honey after sugar again becomes available. The future of the beekeeping industry is bright. The fact that we need many more colonies than are at present available to pollinate fruits, vegetables, and legumes should mean that the government and agriculture will cooperate with beekeepers in the propagation of more bees for the future.

Glenn O. Jones, Secretary and Treasurer of the National Federation, reported on the activities of the Federation during the past year, also of the necessity of further important work to be done. Mr. Jones made an urgent appeal for cooperation of the various segments of our industry. The honey producers of the North are dependent on the bee and queen breeders of the South for bees. The southern shippers need the northern honey producers as an outlet for their bees and queens.

The Committees appointed at the Federation meeting in Chicago a year ago; Uniform Honey Can Cap Committee, Quality of Honey Committee, Beekeepers' Rights Committee, Veterans' Rehabilitation Committee, also the Honey Plants Committee, have made progress during the past year and will report at the coming National Federation Meeting January 15 to 17 at Indianapolis, Indiana.

John M. Amos, State Apiarist of Nashville, Tennessee, who succeeded George Rea recently, now retired, reported on the educational and inspection work in the county associations now organized in Tennessee. From 40 to 60% of bees are in box

hives in some counties. Much educational work needs to be done. The state as a whole has some unusual possibilities.

T. E. Burleson, Waxahatchie, Texas, in speaking on the subject, "Looking Ahead," said we now stand at the forks of the road. We can lapse back into faulty methods of production and marketing, or we can forge ahead, applying businesslike principles, as beekeepers and packers of honey. Mr. Burleson urged backing the American Honey Institute with our dollars, to the very limit.

Prof. David Dunavan, of Clemson College, South Carolina, showed some excellent illustrated stereopticon slides of honey plants throughout the state. There are four regions of beekeeping starting with the coastal area with such plants as saw palmetto and black gum, the remaining areas giving honey from different plants, with a gradual change in the flora until on higher elevations sourwood is found.

During the forenoon of December 14, the president of the Florida Beekeepers Association, **M. C. Milton** of Tampa, Florida, was in the chair. Following the report of the secretary, the Honorable Phil Taylor, Agricultural Comissioner, at Tallahassee, Florida, gave a splendid talk on the possibilities of beekeeping in the state of Florida. There are marvelous developments just around the corner. Mr. Taylor emphasized the necessity of unselfish cooperation, also coordinated effort between all branches of agriculture, including beekeeping.

In the afternoon **John G. Hogg,** Tifton, Georgia, president of the Georgia Beekeepers Association, after calling for reports from the secretary and other committees conducted a round table discussion on the production and shipping of queens and package bees. The weather is one of the most serious handicaps in the production of bees. If producers of bees and queens could count on certain types of weather throughout the season, the number of packages and queens could be greatly increased. Quite often a cool spell of weather will set in, resulting in chilled queen cells, the retardation of brood and the slowing up of shipping.

During the past few seasons, shippers have been hampered by a shortage of help, also material. It is hoped that more labor may be available, also needed material may be secured this coming season.

A number of speakers emphasized the importance of standardizing methods of shipping, also methods of installing bees in hives. The dry cage method of shipping queens with packages is being used to a large extent. It is necessary that the queen cage be placed in the package, so that there is no danger of its being isolated, outside of the cluster of bees, in case a cold spell occurs causing the bees to cluster tightly. The necessity and importance of having directions on the bee shipping cage, that will enable all beekeepers, especially beginners, to install packages easily and successfully, was urgently emphasized. There are thousands of beginners throughout the country and they need to be told in simple and plain language, just how to proceed, when putting a package of bees into a hive.

George H. Rea formerly of the University of Tennessee in the work of extension apiarist, spoke on the subject, "The Forgotten Beekeeper." According to Mr. Rea, the small, or backyard beekeeper, constitutes a very high percentage of the beekeepers throughout the country, possibly 95 percent. It is essential that these beginners have due consideration, because they form part of the backbone of our industry. Many professional men are now keeping bees as a sideline or hobby, and some of these beekeepers, even though they have kept bees only a few years, may actually know as much and possibly more, than some "keepers of bees" who have been in the business over 25 years. Mr. Rea said that quite a number of men in high places such as the late President Roosevelt and Mr. Morgenthau were enthusiastic beekeepers. In closing, Mr. Rea urged support of the National Federation of Beekeepers' Associations.

Maurice G. Dadant, of the American Bee Journal, Hamilton, Ill., conducted a round table discussion on sulpha drugs which brought out some interesting observations. While the drug apparently may clean up AFB temporarily at least, in the vegetative state, it is yet to be proven whether or not it will clean up AFB indefinitely in the spore stage. It seems that the use of sulpha drugs

(Continued on page 53)

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CLASSIFIED ADS

Only responsible advertisers and honest advertisements will be admitted to these columns. References required from new advertisers not known to us. Rate: 10 cts. per counted word, each insertion. Each initial, each word in names and addresses, the shortest word such as "a" and the longest word possible for the advertiser to use, as well as any number (regardless of how many figures in it), count as one word. Copy should be in by the 10th of the month preceding.

HONEY FOR SALE

WE BUY AND SELL all varieties of honey. Any quantity. Write us for best prices obtainable. The Hubbard Apiaries, Manufacturers of Bee Supplies. Onsted, Mich.

HONEY AND WAX WANTED

BEEKEEPERS TAKE NOTICE—We can not guarantee honey buyers' financial responsibility, and advise all beekeepers to sell for cash only or on C. O. D. terms except where the buyer has thoroughly established his credit with the seller.

WE PAY CASH for extracted clover honey. Fairfield Honey Company, Millersport, Ohio.

WANTED—All types clover and fall honey, 1945 crop. Cloverdale Apiaries, Fredonia, N. Y.

WANTED—White and amber honey, any amount. D. F. Treap, 317 Keenan Ave., Cuyahoga Falls, Ohio.

WANTED—EXTRACTED HONEY—Clover or light amber. C. H. Denny, 483 Moody St., Akron 5, Ohio.

HONEY & BEESWAX—Highest prices paid. Mail samples. Advise quantity. BRYANT & COOKINHAM, LOS ANGELES, CALIF.

HIGHEST cash return made the day we receive your beeswax. Write for shipping tags and quotations. Walter T. Kelley Co., Paducah, Kentucky.

CASH FOR YOUR HONEY — Extracted or comb. Regular trade, send sample. 60-lb. cans furnished, if desired. W. R. Moomaw, Stone Creek, Ohio.

WANTED—All grades of comb and extracted honey. Bee supplies and honey containers for sale. Prairie View Honey Co., 12243 12th St., Detroit, Mich.

HONEY WANTED — All grades. Carloads or less. Also Beeswax. Pay Top Prices. H. & S. Honey & Wax Co., Inc., 265-267 Greenwich St., New York 7, N. Y.

HONEY WANTED—All grades and varieties. Highest cash prices paid. Mail samples. State quantity. HAMILTON & COMPANY, 1360 Produce St., Los Angeles, Calif.

CLOVER HONEY WANTED—Large or small lots. Would like to establish permanent connections with several good producers. Ellsworth A. Meineke, Rt. 1, Arlington Heights, Ills.

HONEY WANTED—Have buyers for all grades and varieties packed in 60-lb. tins or barrels. Mail samples and state quantity. FOREIGN COMMODITIES CORPORATION, 100 Hudson St., New York City.

WANTED—All grades honey, carloads or less. We pay ceiling prices in cash. Call for it or arrange shipment. Sell your honey to us and we will stick by you always. The Honeymoon Products Co., 39 East Henry St., River Rouge 18, Michigan.

WANTED—Three tons of light extracted honey, clover preferred. J. Jones, 115 West 82nd St., New York, 24, New York.

ALL GRADES OF HONEY needed badly. Our truck will pick up at your door and pay top cash prices. ALEXANDER CO., 819 Reynolds, Toledo, Ohio

HONEY WANTED—60-lb. tins. Highest prices paid. Write and send samples. O'DONNELL & CO., 4840 Drexel Blvd., Chicago 15, Illinois.

FOR SALE

QUEENBEE PAINTING outfits, $1.00 colony records, 10-15c postpaid. Southwick Apiaries, Waban, Massachusetts.

BEEKEEPER'S HOIST—$25.00, f.o.b.—Frt. prepaid in U.S.A. on two hoists to same address. Turner Mfg. Co., Corning, Iowa.

INSTANT SEVEN AND NINE FRAME SPACERS. Fast — accurate — indispensable. Fat combs — easy uncapping. Set does all supers, $1.50 postpaid. SPECIFY SIZE. George Leys, 48 Drake Ave., New Rochelle, New York.

SAVE MONEY by letting us work your wax into wired regular comb foundation. Large catolog describes everything. You pay only wholesale factory prices as we have no agents. Walter T. Kelley Co., Paducah, Kentucky.

WRITE FOR CATALOG. Quality bee supplies at factory prices. Prompt shipment. Satisfaction guaranteed. The Hubbard Apiaries, Manufacturers of Beekeepers' Supplies, Onsted, Michigan.

DRY SKIM MILK, 35 cents a pound; 5 lbs., $1.25; Brewer's yeast, 40 cents a pound; 5 lbs., $1.50; soy flour expeller, 10 lbs., $1.40. Write for prices in larger units. All prices F.O.B. M. Y. S. Company, Bainbridge, N. Y.

ANDERPOLL, the bee-pollen substitute, contains all the known factors of food, vitamin and mineral required by the honeybee Order through dealer or write for circular. Bruce Anderson, Cedar Grove, No. Car.

FOR SALE—Used Root 10-in. hand foundation mill in good condition, with dipping tanks, Harold R. Gebhart, Miamisburg, Ohio.

MUST SELL ten-frame supers, excluders, bodies, galvanized lids, feeder cans. Eight frame supers with frames. Fifty for $25.00. Earle Heiges, Shiremanstown, Pa.

YOUR WAX WORKED into high quality medium brood foundation for 16c pound; 100 pounds, $12.00. medium brood foundation for sale at 70c per pound. Fred Petersen, Alden, Iowa.

FOR SALE—300 supers, 9 combs each, guaranteed clean. Write Andrews and Darst, Corona, Calif.

BEES AND QUEENS FOR SALE

GLEANINGS cannot guarantee that all bees advertised for sale in our classified columns are free from disease. We use all possible care in accepting advertisements but we cannot be held responsible in case disease appears among bees sold. We suggest that prospective buyers ask for certificate of inspection as a matter of precaution.

PACKAGE BEES, QUEENS — Italians, circular free. Crenshaw County Apiaries, Rutledge, Alabama.

THREE BANDED ITALIAN bees and queens for 1946. Booking orders now. Alamance Bee Co., Geo. E. Curtis, Mgr., Graham, N. C.

PACKAGE BEES with young laying Caucasian Queens for spring delivery. Booking orders now. Miller and Evans, Three Rivers, Texas, Rt. 1.

2000 3-lb. packages of Italian bees and queens for delivery between March 25th and May 1st. Price: 3 lbs. and queen, $5.00. J. E. Wing & Son, Knights Landing, Calif.

THE NORMA ROY APIARIES — Italian bees with queens for spring delivery: 2 lbs. with queen, $3.25; 3-lb. with queen, $4.00. Queenless packages, deduct 70c. No deposit required to book your order and reserve about the shipping date desired. Norma E. Roy & Son, Hessmer, Louisiana.

BREWER'S LINE-BRED CAUCASIAN Queens, breeding stock selected from 1000 field tested colonies for honey production and gentleness. Book your order now for April delivery at $1.25 each. Inspection certificate furnished and safe arrival guaranteed. Brewer Brothers Apiaries, 3217 Hawthorne Rd., Tampa 6, Fla.

GOOD ITALIAN QUEENS, carefully raised, $1.00 each. D. W. Howell, Shellman, Georgia.

CAUCASIAN PACKAGE BEES for April and May. 2-lb. pk.g, $4.00; 3-lb. pkg. $5.00. Prompt shipment. Lewis & Tillery Bee Co., Greenville, Ala.

We still have bulk bees, queenless packages and three-frame nuclei for spring shipment. Taylor Honey Co., Taylor, Texas.

Italian Queens selected for Winter Hardiness, production, non-swarming, and bred for resistance to A.F.B. Ready June 15, $1.25. R. E. Newell & Son, Holliston, Mass. Air Mail extra.

FOR SALE—A 900 colony beekeeping outfit complete with extracting equipment and 1½ ton truck. Apiaries are excellently located in an alfalfa seed area in Montana. Certificate of inspection will be furnished at time of sale. Contact Leroy Teutsch, 1610 Hervey St., Boise, Idaho.

MISCELLANEOUS WANTED

WANTED TO RENT OR WORK ON SHARES by experienced beekeeper a good sized apiary in Georgia or Alabama. Box 1400, Gleanings, Medina, Ohio.

WNATED TO BUY—Need 8-frame equipment, supers, bodies, bottom boards, etc., new. Lose Bros., 206 E. Jefferson, Louisville 2, Kentucky.

FOR RENT—Bees on shares. Operating 5000 colonies western Iowa. Will furnish size unit to suit. All good 10-frame equipment. Good locations. Bees are to remain on present locations. You must know the bee business. OLD TAYLOR HONEY CO., Harlan, Iowa.

HONEY WANTED

Carloads and less than carloads. Mail sample and best prices in all grades.

C. W. AEPPLER COMPANY

Oconomowoc, Wisconsin

WANTED.-Extracted Honey All Kinds

One can or a carload—what have you? Mail your offerings and samples to us. Prompt action—Cash on delivery.

JEWETT & SHERMAN COMPANY

Lisbon Rd. & Evins Ave., Cleveland 4, O.
1204 W. 12th St., Kansas City 7, Mo.

MICHIGAN CLOVER HONEY WANTED!

Buyer of MICHIGAN'S fine Clover Honey Michigan producers write me when you have some of this fine Michigan Clover honey ready for market.

Can use your entire crop. Don't forget, and write.

TOWNSEND SALES COMPANY

E. D. TOWNSEND
NORTHSTAR, MICHIGAN

Soy Flour & Pollen Traps

We are distributors of Staley's Lo-Fat, High Protein expeller processed soy flour for beekeepers. We offer the finest quality in our soy flour and pollen traps.

KILLION & SONS APIARIES

Paris, Illinois

PACKAGE BEES

Hardy leather colored Italians. Fast conscientious service.

2-lb. with queen, $4.00
3-lb. with queen, $5.00
25c per package extra for small orders.
BOOK NOW FOR '46!

EUGENE WALKER

397 Oregon St. Gridley, Calif.

"HONEY GIRL" ITALIAN PACKAGE BEES

Package	1 to 4	5 or more
2 lb. bees with queen	$4.25 ea.	$4.00 ea.
3 lb. bees with queen	5.25 ea.	5.00 ea.

ST. ROMAIN'S "HONEY GIRL" APIARIES

Moreauville, La.

PACKAGE BUYERS!

Again we offer the same high quality Italian queens and packages as in the past and expect to give the same "on time" service and careful attention to every order.

	1-24	25-99	100-up
2-lb. pkg. with queen	$4.00	$3.75	$3.50
3-lb. pkg. with queen	5.00	4.75	4.50
Extra Queens	1.25	1.15	1.05

For queenless packages deduct price of queen. Add $1.00 per pound for larger packages.

W. E. PLANT
HATTIESBURG, RT. 2, MISS.

Booking Orders for 1946 for Our Bright Three-banded Italian Queens and Package Bees.

PRICES:		Packages and Queens			
	Queens	2 lbs.	3 lbs	4 lbs.	5 lbs
1 - 4	$1.25	$4.00	$5.10	$6.20	$7.30
25 - 99	1.15	3.75	4.80	5.85	6.90
100 - up	1.05	3.50	4.50	5.50	6.50

We ask 10% deposit with orders booked in advance. We guarantee safe arrival and satisfaction.

TAYLOR APIARIES
Box 249, Luverne, Alabama

NO MORE QUEENS UNTIL BEGINNING IN MAY, 1946

Appreciative of your past patronage, we look forward to having, if possible, more and better queens with the usual prompt service in 1946.

WHITE PINE BEE FARMS
ROCKTON, PA.
(The Home of Good Italian Queens)
Gleanings advertisers since 1911

Italian Bees and Queens!

We are booking orders for Spring, 1946 Only 20% with order, balance ten (10) days before shipping date. Prices as follows:

2-lb. package with queen	$3.50
3-lb. package with queen	4.50
4-lb. package with queen	5.50

The Star Bee Farm
HESSMER, LA.

THE GOLDEN QUEENS OF THE GOLDEN WEST!

Try our western-bred queens and bees, for they are the best. The war is over now and the Clifton Brothers are back together again to give more efficient service and better bees and queens than ever before.

We are booking orders for spring 1946.

CLIFTON APIARIES
P. O. Box 684 Oroville, California

WANTED—Four thousand cans of amber honey F.O.B. anywhere in the United States. Send sample and price. Also four bee men who are capable of managing apiaries for honey production, queen rearing, package bees, by water and on land, in the North and the South. Those who are interested in permanent position, please reply. Want to correspond with pilot who would be interested in flying package bees to Canada. Hyland Apiaries, West Elkton, Ohio.

WANTED—Colonies of bees in Michigan. Frank D. Chamberlain, Caro, Mich.

WANTED—For cash, clean colonies in southern Wisconsin; also wired foundation, radial extractor and extracting equipment. Stanley Benson, McFarland, Wisconsin.

SUPPLIES

ATTENTION BEEKEEPERS IN MINNESOTA, Wis., Iowa, N. D. and S. D. Buy Lewis-Dadant Bee Supplies and Honey Containers in Minneapolis and save. Send for price lists. TOP PRICES PAID FOR HONEY AND BEESWAX IN CASH OR TRADE. HONEY SALES COMPANY, 1806-08 No. Washington Ave., Minneapolis 11, Minnesota.

SEEDS

ANISE HYSSOP SEED—Generous package, $0.25, or $2.00 for an ounce. James Beecken, Rt. 1, Elgin, Illinois.

BY EXPRESS COLLECT — Transplanted American Basswood trees 4-5 ft., $1.00; 5-6 ft., $1.75; 6-8 ft., $2.25; 8-10 ft., $3.00. Earlier blooming European Basswood trees 4-5 ft., $2.00; 3-4 ft., $1.50. French Pussy Willow (early pollen producers) 3-4 ft., 60c; 4-5 ft., 90c each. Red Barked Dogwood and Pink Tartarian Honeysuckle shrubs 12-18 inch, $8.50 per 50. Write for our NECTAR and POLLEN producing shrub and tree postpaid $1.20 collections, and circulars. NICOLLET COUNTY NURSERY, St. Peter, Minnesota.

SEEDS OF HONEY PLANTS: Improve your bee pasture. For your trial, we offer one packet each of fifteen good honey plants for $2.00, postpaid. Write for free circular describing new forage crops, ornamentals and waste land plants, good nectar producers. Pellett Gardens, Atlantic, Iowa.

HELP WANTED

WANTED—Man to work bees coming season. Give age, weight, wages expected, and references. C. H. Schader, Sunnyside, Washington.

HELPERS in queen and package yards. Give experience and wages expected. Board and room furnished. No drinker. W. E. Plant, Hattiesburg, Mississippi.

Young man with some experience to assist in extracted honey production, 1946. Season April to November, state age, habits, experience, and salary expected. Board, room furnished. Lavern Depew, Auburn, N. Y.

Wanted—Man to work bees — year round job. Can furnish house. Married man preferred. Please specify age and wages expected. Users of alcoholic liquors need not apply. J. W. Reitz & Brothers, "Sun-Glo Honey", Rt. 1, Summerfield, Florida.

HELP WANTED to work bees. Steady all-year work at top wages. Married or single. Advancement to assistant manager when capable. Box 1245, Care Gleanings, Medina, Ohio.

WANTED—strong, capable young man of good habits, to help with 23 apiaries. Good opportunity for the right man wishing to enter bee business on shares or by purchase, eventually. Fair territory, few very large crops, but almost no complete failures. Have equipment for 1100 colonies, good central plant. Seven room house with conveniences at moderate rent. This is a working proposition. Ray C. Wilcox, Odessa, N. Y.

WANTED—Experienced reliable man for large modern apiary, irrigated section, western state. Owner has other interests. A good deal to one who knows the business and wants something permanent. Give age, experience , and references. James Parnell, Oswego, Kansas.

WANTED—Two men to work bees, year around job. Could start work at once in our Arizona apiaries, and help harvest our crop in Idaho during summer. Good wages and chance for advancement. Give age, experience and references. Powers Apiaries, Parma, Idaho.

QUEEN BREEDER, also Package Man for Louisiana Unit. Write what you can do, and wages expected. Reliable, honest men wanted. Ephardt Honey Farms, Innis, Louisiana.

POSITION WANTED

EXPERIENCED DUTCH BEEKEEPER, age 33, wants position in commercial apiary in Canada, preferably where business can be taken over i. d. c. Write full particulars and conditions by airmail. K. Bosch, K. 268 III. EERBEEK, Holland.

TRAPPERS

TRAP FOX AND COYOTE: On bare ground or deep snow. Learn modern methods to outwit the sly furbearers. Free illustrated circular. Q. Bunch, Welch, Minn.

MISCELLANEOUS

EARTHWORM CULTURE — Send postcard for valuable FREE bulletin, with review on "Intensive Propagation and Use of Earth-worms in Soil-building." Thos. J. Barrett, Earthmaster Farms, Box 488-G, Roscoe, Calif.

SEEDS

FINE TESTED ALFALFA, $20.50 per bu.; Grimm, $23.00; Red Clover, $21.70; Scarified Sweet Clover, $8.25; New Timothy and Alsike Mixed, $6.00; New Strain Brome, $3.50; Korean Lespedeza, $2.60; Early Giant, $4.95; Hybrid Seed Corn, tested, $4.25. Our seeds recleaned, tested. Guaranteed satisfactory and sold subject your 60-day test. Write now for Free Samples and 1946 Catalog. Hurry, scarcities exist. American Field Seed Co., Dept. 382, Chicago 9, Illinois.

HIGH TESTING ALFALFA, $20.40; Grimm, $23.40; Red Clover, $21.60; Alsike, $21.60; Sweet Clover, Scarified, $8.40; Unhulled, $4.20; New Timothy, $3.20; Alsike and Timothy, $5.95; New Strain Brome, $3.50; Korean Lespedeza, $2.50; Early Giant, $4.90; high quality. All per bushel. triple recleaned. Hybrid Corn, $4.25. Guaranteed satisfactory. Free samples - catalog. Frank Finn, Box 482, Clarinda, Iowa.

Three Band Italian Package Bees with Queens for 1946

	1-24	24 to 48	48-up
2-lb.	$4.00	$3.75	$3.60
3-lb.	5.00	4.75	4.60

E. R. RALEY
Fitzgerald, Ga.

CARNIOLANS
CAUCASIANS

Gentle, prolific, good winterers, build up rapidly during Spring. We will offer a limited number of 2-lb. and 3-lb. packages with queens, 8-fr. and 10-fr. colonies in the spring. Queens of both races in season.
Albert G. Hann, Glen Gardner, N. J.

Gentle Northern Queens

FROM PROLIFIC 3-BANDED ITALIAN BREEDING STOCK

All queens reared under natural conditions in large over-wintered queen-right colonies under supersedure impulse, this being nature's way of producing large, yellow queens that are fully developed.

Some of this stock was recently shipped by air to China, and were successfully introduced.

All shipments will go by air mail starting June 1st, $1.10 each. Please let me book a trial order for 1946, and show you some young northern queens of quality, prompt service, satisfaction.

Barger Apiaries
CAREY, OHIO

Three Banded Italians

PRICES FOR 1946

2 lb. with queen	$3.65
3-lb. with queen	4.65
Queens	1.00

$1.00 deposit required on packages

A. M. Peach
BALDWYN, MISS.

$1 Garden Seeds FREE
To the first 1000 who order through this notice, we'll send FREE $1.00 in garden seeds Write for our "Lucky 7". Offer and Catalog today
BERRY SEED CO., Box182F Clarinda, Iowa

PACKAGE BEES FOR 1946

2-lb. package with queen, $3.50 each
3-lb. package with queen, 4.50 each
4-lb package with queen, 5.50 each

Queenless package, deduct 90c from above prices. 20% down books order.

Health certificate and safe delivery guaranteed.

Address
HESSMER BEE FARM
HESSMER, LA.

FACTORY TO YOU
KITSELMAN FENCE

Buy Farm, Poultry, Hog Fence, Steel Posts, Barbed Wire at FACTORY PRICES! Save too on quality Paints, Roofing, Hay Tools, Hog Feeders, Founts, Poultry Supplies and other farm needs! **WE PAY FREIGHT.** Write today for FREE Catalog!

KITSELMAN BROTHERS
Dept. 21 Muncie, Indiana.

Read the South African Bee Journal to be conversant with conditions from far afield. Subscription 5/ per year. For further particulars, write to the Hon. Treasurer, 14 Riebeck St., Worcester, C. P. South Africa.

INTERESTED in Angora Goats? Read the Sheep and Goat Raiser. Hotel Cactus, San Angelo, Texas, the only ranch magazine published serving the Angora Goat industry. Subscription — $1.50, Sample copy—fifteen cents.

MANY BEEKEEPERS have proven raising fox, mink, nutria, muskrats, rabbits, highly profitable. Send dime for sample copy. Canada's oldest fur farming magazine tells how. Fur Trade Journal of Canada, Box 31, Toronto 2, Ontario.

THE BEE WORLD—The leading Journal in Great Britain and the only international bee review in existence. Specializes in the world's news in both science and practice of apiculture. Specimen copy post free. 12 cents stamps. Membership in the Club including a subscription to the paper, 10/6. The Apis Club, L. Illingsworth, The Way's End, Foxston, Royston, Herts, England.

LEATHER COLORED ITALIAN QUEENS
MIDDLE TENNESSEE APIARIES
1 to 25, $1.25; 26 on up, $1.10—From Imported Strains
¼ books orders. Balance before shipping. Add 5 cents for all queens by air.
(All queens after June 15, $1.00)
J. B. TATE & SON
1029 No. 4th St., Nashville, Tenn. Tel. No. 34509M

ANNOUNCING 1946 PRICES

On

STOVER QUALITY BEES

Through May 20th

Lots of:	Queens	2 lb.	3 lb.	4 lb.	5 lb.
1 - 24	$1.25	$4.00	$5.10	$6.20	$7.30
25 - 99	1.15	3.75	4.80	5.85	6.90
100 - up	1.05	3.50	4.50	5.50	6.50

After May 14th

Lots of:	Queens	2 lb.	3 lb.	4 lb.	5 lb.
1 - 24	$1.10	$3.85	$4.95	$6.05	$7.15
25 - 99	1.00	3.60	4.65	5.70	6.75
100 - up	.90	3.35	4.35	5.35	.6.35

Orders booked without Deposit
Queens Postpaid — Packages F.O.B. Shipping Point
For Queenless Package Deduct Price of Queen
Payable in U. S. Funds

THE STOVER APIARIES
Mayhew, Miss.

Red Stick Apiaries & Co.

PACKAGE BEES — QUEENS

Twenty-five years as Commercial Queen Breeders.
Oldest Combless Package Bee Shippers in Louisiana.

OPEN FOR 1946 BOOKING
ITALIAN STOCK - RESISTANT STOCK
YOUR CHOICE

Quantity	Queens	2-Lb.	3-Lb.
1 to 24	$1.25	$4.00	$5.00
25 to 99	1.15	3.75	4.80
100 or over	1.05	3.50	4.50

Contract Your Orders Early!
Net with order for United States or Canada

RED STICK APIARIES & CO.
Main Office, 125 Lessard St.
Donaldsonville, Louisiana
Telegraph, Western Union

GASPARD'S QUALITY ITALIAN QUEENS AND PACKAGE BEES!

We are now booking orders for the Spring of 1946.
Only 20% with order, balance at shipping time.

PRICES AS FOLLOWS:

2-lb. package with queens,	$3.50
3-lb. package with queens,	4.50
4-lb. package with queens,	5.50
5-lb. package with queens,	6.50

Comb packages with one frame of brood and honey add $1.50 per package.

J. L. GASPARD
HESSMER, LOUISIANA

PACKAGE BEES

Quality Italian Bees and Queens
We still have some good shipping dates for the coming season.
Prices F.O.B. Tifton

	1-23	24-98	99 and over
2-lb. pk. with queen	$3.85	$3.70	$3.50
3-lb. pk. with queen	4.85	4.70	4.50

Queenless packages are less.
One dollar per package reserves the date, the remainder due at least 10 days prior to the shipping date.

GIRARDEAU APIARIES
(Successors to Morley Pettit)
TIFTON, GEORGIA

WE ARE OPENING FOR ORDERS OF ITALIAN PACKAGE BEES AND QUEENS AT FOLLOWING PRICES:

	1-24	25-49	50-up
2-lbs. with queen	$4.00	$3.85	$3.75
3-lbs. with queen,	5.00	4.85	4.75

Full weight, live delivery. Prompt service. Guaranteed live delivery - No C.O.D.

OSCAR ARNOUVILLE
HAMBURG, LA.

WHITTLE'S

PACKAGE BEES AND QUEENS
LEATHER COLORED ITALIANS
are Guaranteed to Please!

Booking Orders now For 1946
We have a number of open shipping dates. Do not delay, book now and be safe!

1946 PRICES

	Queens	2-lb.	3-lb.	4-lb.	5-lb.
1-24	$1.25	$4.00	$5.10	$6.20	$7.30
25-99	1.15	3.75	4.80	5.85	6.90
100-up	1.05	3.50	4.50	5.50	6.50

GEO. E. WHITTLE
Star Route, West
GREENVILLE, ALA.

DEXTER BROTHERS

First Quality Italians

Package Bees - Queens

Package Bees with Queens

	2-lb.	3-lb.	Extra Queens
1-24	$4.00	$5.00	$1.25
25-99	3.75	4.75	1.15
100-up	3.50	4.50	1.05

Terms: Small orders, cash in full Large Orders 20% deposit, balance to be received in two weeks before shipping date.

Dexter Brothers
Myrtle Beach, South Carolina

THREE BAND ITALIAN PACKAGE BEES

Full weight, prompt shipment, young bees. State Health Certificate with each shipment. Live arrival guaranteed. Replacement or refund made promptly upon receipt of bad order from your express agent.

Our Prices until June 10, 1946 in U. S. Funds

	Each Queens	With Queens 2-lb.	3-lb.	4-lb.	5-lb.
1-29	$1.10	$4.00	$5.10	$6.20	$7.30
30 or more		3.50	4.50	5.50	6.50

For Queenless Packages deduct $1.10 each from above prices, if queens are wanted introduced, add $1.10 to the price of each package.

JACKSON APIARIES

FUNSTON, GA. U. S. A.

TALKS TO BEEKEEPERS

(Continued from page 29)

after the main honey flow unless the hive is queenless or has an unmated queen.

Bees to Carry a Pound of Honey

Actual weighings have shown that it takes about 20,000 bees to bring in a pound of nectar, which will make about one-fourth as much honey. It would, therefore, take 80,000 bees to bring in enough nectar, when evaporated and modified by bees, to equal a pound of honey. It has been estimated that it takes 80,000 more bees to evaporate and modify four pounds of nectar into honey. According to these figures it takes 160,000 bees to gather and prepare a pound of honey in a given period of a few hours or a day.

The average flying distance for a bee load may be a mile and a half. If one bee could gather enough nectar (four pounds) to make one pound of honey it would have to make 80,000 trips of one mile each, or fly a distance equal to more than three times around the globe.

BEEKEEPERS' BEST FRIEND

We must build for the future. The present demand for honey may slacken somewhat if and when sugar again becomes available in quantity.

The American Honey Institute

has been creating consumer interest in honey since 1928. Let's back the **Institute** with our dollars.

Send contributions, large or small, to

American Honey Institute

Commercial State Bank Building

Madison, Wisconsin

VALDOSTA MEETING

(Continued from page 45)

has a stimulating effect on colonies of bees. More work needs to be done to establish facts.

J. F. Reinhardt, Apiculturist at Georgia Coastal Experimental Station at Tifton, Georgia, told about his work that has been started recently. He mentioned the projects for the future, namely, "work on the control of the wax moth," the "purple brood" malady which now troubles beekeepers of the Southeast, and also "honey production throughout the coastal plains area." Mr. Reinhardt has recently undertaken this work and we wish him future success.

It was voted to accept an invitation extended by the Chamber of Commerce of Tampa, Florida, to have the next meeting in that city. The Southern Federation also extended an invitation to the National Federation to join with the Southern Federation in the meeting at Tampa the coming year.

Ned Prevost attended the meeting in spite of his lame foot which is still in a cast. Ned, in his inimitable manner, presided over the "fun fest" following a delicious chicken dinner, southern barbecue style.

Italian Bees and Queens for 1946!

To get preferred shipping dates we wish to advise you to place your order now as our list is rapidly filling up.

LET US KNOW YOUR NEEDS FOR THE COMING SEASON AND WE WILL GIVE YOU OUR QUOTATIONS AND DATE.

B. J. Bordelon Apiaries
MOREAUVILLE, LA.

YOUNG ITALIAN BEES AND A YOUNG QUEEN

Make an excellent package

We still have a few good shipping dates open.

Write for prices and dates available.
RAPIDES APIARIES
WINNFIELD, LA.

NOW BOOKING
1946 PACKAGES

2-lb. package with queen	$3.75
3-lb. package with queen	4.75
Queenless package	deduct $1.00

"Dixie's Best" (Italians)
TANNER BEE CO.
Laurel, Miss.

ITALIAN PACKAGES AND QUEENS!

	2-lb. with queen	3-lb. with queen
1-24	$3.90	$4.90
25-100 up	3.65	4.60

Queens, $1.25 each

Good bees, good equipment and good service at a fair price. Can book a few hundred more packages for spring delivery.

LOUIS L. COUCH
The Village Beekeeper
PINEVILLE, LA.

JUST NEWS

(Continued from page 43)

Credentials
Nominations

2:30 P.M. Bees in Legume Seed Production—Dr. I. J. Johnson, Iowa State College, Ames, Iowa

3:00 P.M. Conservation and the Honeybee, R. L. von Trebra, Soil Conservation Service, Milwaukee, Wis.

3:30 P.M. Recess

3:45 P.M. Honey and Pollen Plants Committee Report and Open Forum Discussion
W.E.Dunham, Ch., Columbus.,O.
H. A. Scullen, Corvallis, Ore.
S.W.Edgecombe, Doylestown, Pa.
R. B. Wilson, New York, N. Y.
Norma Pfeiffer, Yonkers, N. Y.
F. C. Pellett, Hamilton, Ill.
M. J. Deyell, Medina, Ohio
Glenn O. Jones, Atlantic, Iowa
Jas. I., Hambleton, (Advisory), Beltsville, Md.

6:30 P.M. Banquet and Fun-Fest

THURSDAY, JANUARY 17

9:00 A.M. The Future of Beekeeping as Seen by a Washington Observer
Harold J. Clay, Production and Marketing Administration, U. S. Dept. of Agri., Washington, D. C.

10:30 A.M. Quality Honey Committee Report and Open Forum
E. F. Phillips, Ch., Ithaca, N. Y.
R. F. Remer, Sioux City, Iowa
Walter Diehnelt, Menominee Falls, Wisc.
Lewis M.White, Portland, Ore.
Donald H. Lee, Groton, N. Y.
A. V. Dowling, Valdosta, Ga.
J. V. Wilbanks, Sarasota, Fla.

2:30 P.M. Executive Committee Meeting
Such other Committees as care to meet and plan activities for 1946.

BEES AND QUEENS!

ALL BREEDERS NORTHERN RECORD PRODUCERS!

Our system of holding queens in large nuclei until egg ability is proven assures you of the finest queens to be had at any price.

2-lb. pkg. with queen, $4.00
3-lb. pkg. with queen, 5.00
4-lb. pkg. with queen, 6.10
Extra queens 1.25

10% discount on orders of 25 or more queens or packages with queens. For queenless packages deduct price of queen.

THE RICH HONEY FARMS
JEANERETTE, LA.

YOU MUST BE SATISFIED

Regardless of the Reason!

Bees from our quality and production-bred Italian Queens will fill those supers.

PLENTY OF SPRING SHIPPING DATES OPEN.

Book Your Orders Now!

1-24 ..... $1.10
25-up 1.00

HEART O'TEXAS APIARIES
WACO, TEXAS

PERFORMANCE

is what you get when your choice is daughter queens of the "DR" strain which has been bred continuously for resistance to A.F.B. Satisfaction is being expressed by an ever increasing number of users in every honey producing state. No change in prices. Write for shipping dates.

Iowa Beekeepers Association
State House, Des Moines 19, Iowa

HALL APIARIES

ITALIAN BEES AND QUEENS

2-lb. pkgs. with queens, $4.25
3-lb. pkgs. with queens 5.25
Young laying queens, 1.25

Booking orders for 1946. Safe arrival guaranteed.

P. O. Box 415 Prichard, Alabama

NOTICE!

To our customers and friends, I am now booking orders for spring delivery for Italian Queens and Bees.
Write or wire your orders before we are booked up.

	1-24	24-48	100 lots
2-lb.	$4.00	$3.75	$3.50
3-lb.	5.00	4.75	4.50

Italian queens, 1-.50, $1.25; 50-100, $1.10

Huber Forehand
SATSUMA, ALA.
42 Years Among the Bees

Italian Bees and Queens!

2-lb. package with queen, $3.50
3-lb. package with queen, 4.50
4-lb. package with queen, 5.50

Health certificate, and safe arrival guaranteed, 20% deposit on booking orders.

CLOVER BEE FARMS
Hessmer, La.

York's Package Bees and Queens for 1946

Quality Bred Italians

No Change in Price for Coming Season

PACKAGE BEES WITH YOUNG LAYING QUEENS

Quantity	1 to 2	3 to 27	30 to 96	99 up
2-lb- pkgs.	$4.25 each	$4.10 each	$3.95 each	$3.75 each
3-lb. pkgs.	5.25 each	5.10 each	4.95 each	4.75 each
Extra Queens	1.30 each	1.25 each	1.25 each	1.25 each

Queenless Packages, deduct $1.10 per package.

Booking orders now for 1946, same terms and price. We thank our customers for their patronage and will be prepared to serve you better with highest quality the coming season. A large number of buyers have already placed orders for the coming season and if you have not done so, we urge you to do so without delay for better choice of shipping dates. There is every indication of an extra heavy demand. Order direct from this ad and save time.

YORK BEE COMPANY, Jesup, Ga., U. S. A.

The Universal Apiaries

ITALIANS! **QUEENS!** **CAUCASIANS!**

Daughters of Queens bred for Resistance — Bred to Italian Drones
All three races bred in separate yards.

2-lb. package bees with queen, $4.00; 3-lb. package bees with queen, $5.00
Extra Queens, $1.25 each

OVER 25 YEARS A SHIPPER IN U. S. A. AND CANADA

Sulfathiazole used in feed at no extra cost to you.

MASTER MIX POLLEN made from Soybean flour, Cottonseed meal, Brewers yeast, Skim milk, Natural pollen, Invert sugar and Sulfathiazole, 10-lb. pail, $2.50 six pails, $13.50. Send for FREE CIRCULARS.

BLUE BONNET APIARIES, Rt. 2, Box 23, WESLACO, TEXAS

"A CALL FOR HELP"

Will you help us keep our customers happy?
We are appealing to our old and new friends alike:
"Bring in or ship us your Honey"
We need it—B-Z-B jars need it—and the busy housewife needs it.
You help us help them keep up their energy.

B-Z-B Honey Company

361 E. Valley Blvd., ALHAMBRA (Los Angeles County), CALIF.

NOTICE ! ! ! !

2,000 3-lb. packages with Queens for APRIL DELIVERY. Write: EPHARDT HONEY FARMS, GHEENS, LOUISIANA

PACKAGE BEES AND QUEENS FOR 1946!

* * * * *

PROGENY-TEST 3-BANDED ITALIAN STRAIN.

Also Charles Mraz's and other reliable breeders' strains of high quality Daughters of Stock Bred for Resistance.

Quantity	2-lb. pkg. w-q.	3-lb. pkg. w-q.	Queens
1-9	$3.70	$4.70	$1.10
10-24	3.60	4.60	1.05
25-99	3.55	4.55	1.00
100 and up	3.45	4.45	.95

DEPENDABILITY - QUALITY - SERVICE

* * * * *

GARON BEE COMPANY, Donaldsonville, La.

Root QUALITY BEE SUPPLIES FOR MICHIGAN

BUY WITH CONFIDENCE

Root QUALITY BEE SUPPLIES FOR MICHIGAN

ROOT HIVES have the preferred style cuts and dimensions and are the standard the world over.

Our stock is Limited. Anticipate your 1946 needs and place your order early!

WRITE FOR CONTAINER PRICE LIST AND OUR LIST OF SPECIAL ITEMS

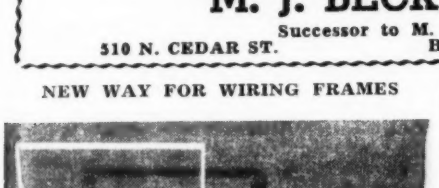
BEESWAX WANTED—Cash price, 41½c lb. Trade price, 43½c lb. Freight paid on 100 lbs. or more.

M. J. BECK COMPANY

Successor to M. H. Hunt and Son

510 N. CEDAR ST. Box 7 LANSING 1, MICH.

NEW WAY FOR WIRING FRAMES



"BEN BUZZ" Trade Mark
NEW-DIFFERENT-SUPERIOR. Ben Buzz makes frame wiring fast, easy. Frames are wired horizontally while frame is held in vertical position instead of laying the frame flat to insert the wires. No cranks, pulleys, or unwinding kinky wire. Adjustable for pound or half pound spools. Simply fasten frame block and baffle box to bench with 4 screws and clamp top bar of frame to block. Delivered complete including clamp and pound spool wire $2.50.
BURTON APIARIES, Washington, Indiana

* * *

OUR COVER PICTURE

The cover picture for this issue is from one of Mr. G. A. Pauli's beautiful photographs. Mr. Pauli is a close observer of bees and we have felt ourselves very fortunate in having his photos to reproduce on our cover page.

OLDEST BEE JOURNAL IN THE ENGLISH LANGUAGE

Keep up on markets, practices, scientific data, reguations, plant possibilities.

1 year—$1.50; 3 fears—$3.00. U. S. and Canada. Foreign postage 25c a year additional.

AMERICAN BEE JOURNAL
Hamilton, Illinois

TOO LATE TO CLASSIFY

WANTED—500 colonies bees, standard equipment with supers. Location midwest. Box 1500 Gleanings, Medina, Ohio.

FOR SALE—Package bees with select young Italian queens; 2-lb., $4.00 each; 3 lbs. $5.00 each, orders of 50 or more. Thos C. Burleson, Colusa, Calif.

VETERAN, 34, married, desires position with progressive producer. Would consider GI Bill Rights investment with right set-up. William Sudds, 33 Kelvin St., Forest Hills, N. Y.

This photo shows a portion of one of our queen yards containing over 6,000 nuclei

1946 ITALIAN PACKAGE BEES AND QUEENS 1946

2-lb. with queen $4.00
3-lb. with queen 5.00
Extra queens, each 1.25

QUEENS
Light Italians

WE SOLICIT QUEEN TRADE FROM PACKAGE SHIPPERS ALL OVER THE NATION!

We were never out of queens in 1945, in spite of the unusually heavy demands. Place your order where you can rely on getting your queens when you want them. Write for our special prices on large orders as well as our folder that will show you what others think of the quality of our queens and packages, as well as dependable service.

OVERBEY APIARIES, BUNKIE, LA.
Phone 657 day or night

MY REASONS FOR JOINING A COOPERATIVE

(Continued from page 5)

ganization to reach the goal quicker and at less cost. I felt that it was up to the honey industry to match the driving force of competing industries or fall back in the race for the consumer's dollar and finally disintegrate entirely or at least come to a standstill in the present-day fast moving market.

I wanted to see honey on the filling lines being made ready for market with the aid of all modern automatic devices—packed and packaged in the attractive and appetizing way it should be to compete with related food items. I was sure that our industry was as much in need of low cost mass packing as any other related industry, and that large-scale distribution and merchandising was essential.

I have seen beekeepers popularize honey in their particular areas until the per capita consumption increased far above the average and I knew that if individuals could do it, groups of men by pooling their resources and ingenuity, could accomplish even greater results from such cooperative effort.

I felt certain then as I do now, that such group action along the line of effective merchandising could aid materially in the widening of the horizon to include not only scattered communities, but large markets and regions, where honey is little known and used.

In conclusion, I say this: the progress and development of the Sioux Honey Association and the influence it exerts in the honey industry are evidence of an awakening which can have only a beneficial effect on all honey producers. Our product has finally found its well deserved place in the food field. Honey has unlimited uses, and its flavor and nutritive properties distinguishes it as a food by itself.

But the haphazard methods of the past must be eliminated once and for all if honey is to retain the position of preference it now enjoys an can continue to enjoy if proper support is given. To assist in every way I can to supply that support, is only one of the many reasons why I decided to become a member of the Sioux Honey Association.

INDEX TO 1945 GLEANINGS

The general index to the 1945 Gleanings in Bee Culture is ready for distribution. It is printed in leaflet form and anyone desiring a copy can secure one by asking for it.

ITALIAN BEES AND QUEENS!

To avoid the rush and risk of not getting your bees and queens next year

ORDER NOW!

we will ship you good weight packages and young queens and guarantee safe arrival. Health certificate with each shipment. Order now as dates are filling up fast.

Quantity	1 to 24	25 to 49	50 to 99	100-up
	PRICES:			
2-lb. package with queen	$4.15	$4.05	$4.00	$3.70
3-lb. package with queen	5.15	5.05	5.00	4.70
4-lb. package with queen	6.15	6.05	6.00	5.70
Extra Queens	1.35	1.30	1.25	1.15

Queenless packages, deduct $1.10 per package.

Packages by express collect — Queens Postpaid.

Terms: 10% down, balance ten days before shipment.

Write, wire or call for your order.

TANQUARY HONEY FARMS, INC.

LENA, SOUTH CAROLINA

SUNKIST ITALIAN BEES AND QUEENS!

We have openings in May for packages. Sorry—but we are booked through April at present. We may have more packages to offer later. We have openings in April and May for straight Queen orders. We offer three-banded Italians, live delivery, health certificate, satisfaction. 10 per cent books your order, balance 10 days before shipping.

PRICES:	Queens	2-lb. pkg	3-lb. pkg.
1-25	$1.10	$3.50	$4.50
25-up	1.00	3.40	4.40

SUNKIST BEE COMPANY

Route 2, Box 9 Houma, La.

NO CHANGE IN PRICES FOR 1946

Make reservations now for Package Bees and Queens for spring shipment. Early dates are being rapidly booked up.

All orders for more than two packages SHOULD BE FOR MULTIPLES OF THREE, to make even crates. FOUR LB. PACKAGES and SPECIAL LOOSE-QUEEN PACKAGES cannot be shipped earlier than MAY 15th. All orders should be accompanied by payment of $1.00 PER PACKAGE, to confirm and hold shipping date, balance payable before shipping.

PRICES—Quantity Scale:	(1 or 2)	(3 to 24)	(27 to 99)	102 & above
2-lb. package with queen	ea. $3.90	ea. $3.65	ea. $3.50	ea. $3.35
3-lb. package with queen	ea. 4.90	ea. 4.65	ea. 4.50	ea. 4.35

Extra Queens, Untested, $1.00, any quantity—Tested, $2.00, any quantity.

For queenless packages deduct $1.00 - For Special Loose-Queen packages, add $1.00

THE PUETT COMPANY Hahira, Georgia

BETTER-BRED QUEENS–Three-Banded Italians

We appreciate your business in the past and solicit your future business on the merits of our service and quality. Prices to be the same as last year.

CALVERT APIARIES, Calvert, Alabama

QUEENS! — ITALIANS! — PACKAGES!

The following prices will be effective until further notice for 1946.

Quantity	Queens	2-lb. pkgs.	3-lb. pkgs.
1-24	$1.25	$4.00	$5.10
25-99	1.15	3.75	4.80
100-up	1.05	3.50	4.50

BESSONET BEE COMPANY

DONALDSONVILLE, LOUISIANA

. HAPPY NEW YEAR!

Please accept our sincere wish that you will have a most happy and prosperous year all through 1946.

Package Bees can help you in making your beekeeping both profitable and pleasant.

PLACE YOUR ORDER NOW FOR YOUR NEEDS!

2-lb. package with queen $3.50
3-lb. package with queen 4.50

Satisfaction Guaranteed.

ROSSMAN & LONG
Box 133 Moultrie, Ga.
"They Satisfy"

JENSON'S

ITALIAN BEES AND QUEENS
"Magnolia State" Strain

A New Year has appeared upon the scene. What it holds in store for humanity no one can predict. One thing is sure; it holds possibilities for those forward looking individuals who shoulder their responsibilities and carry on to the best of their abilities, and capitalize on the good breaks.

The first consideration of the beekeeper should be a hardy, hustling, productive stock of bees. Good queens are the "first" requisite in good apiary management. Ample equipment and labor-saving devices are good seconds.

Results secured and reported to us by our customers indicate that we are succeeding in some measure in our efforts to produce "the better bee."

PRICES:

	Queens	2-lb. pkgs. with queen	2-lb. pkgs. with queen
1-24	$1.25	$4.00	$5.10
25-99	1.15	3.75	4.80
100-up	1.05	3.50	4.50

Thanks for past favors, and a Happy and Prosperous New Year to All!

JENSEN'S APIARIES
MACON, MISS.

Your Root Dealer

Do not blame your Bee Supply Dealer if he is unable to furnish you with all the supplies you need. Labor conditions in various sections of the United States have prevented the normal production of raw materials used in the manufacture of bee equipment.

CONDITIONS CHANGE

and therefore it will be to your advantage to keep in close touch with your dealer.

ROOT QUALITY BEE SUPPLIES

will always be on the beekeepers' priority list because of their superb qualities in design, workmanship, and material.

"Best by the Bee Test"

Three-Ply Airco Foundation
Triple Locked Frames
Hive Bodies
Extractors
Smokers
Sections
Excluders, Etc.

FOR SATISFACTION
See Your Root Dealer

Honey Market Report

SEMI-MONTHLY HONEY REPORT

United States Department of Agriculture, Production and Marketing Administration

Washington, D. C., December 3, 1945.

CALIFORNIA POINT: (Period Nov. 8-22)

Southern California. During this period the weather in southern California was generally clear with cool nights and about normal temperature during the day. Some sections at higher elevations had rather heavy frosts. The soil is becoming dry in some sections, while in others there has been enough rain to produce some new growth. Bees in the hills are inactive. Most hill colonies have sufficient stores, but some will need feeding before spring. In these sections there has been some shortage of pollen. In the irrigated valleys bees are working eucalyptus and mustard, and broodrearing has been rather active. Honey continues very scarce in both beekeepers' and packers' hands; only a few scattered lots are arriving in the Los Angeles area. Sales f.o.b. shipping point per lb. extracted Buckwheat-Alfalfa and Mixed Desert flowers, 12 cts. per lb. Beeswax receipts have been very light, with sales at 41½-43½c per lb. f.o.b. to beekeepers.

Central and Northern California. Temperatures in northern and central California were about normal during this period. There was considerable rainfall in the northwest corner of the State, but it gradually diminished toward the south. Some light local frosts occurred, and there were low fogs on several mornings. In central California colonies are generally in good condition both as to young bees and winter stores. Many apiaries have as high as 90 percent young queens. In northern California colony conditions is generally poor. Many colonies have died and others produced insufficient honey for winter stores and are now being fed. There has been some movement of colonies from hill and thistle locations to orchards for winter and the early spring crop. Very little honey remains in the hands of producers and receipts in the Bay Cities area have been very light. Sales f.o.b. shipping point, per lb. northern California, Clover, Thistle, and Cedar 12c per pound. Central America, Mixed Flowers 12½c per lb. ex dock San Francisco, duty paid. Some bottled honey is being received in the Bay area from the Rocky Mountain region.

PACIFIC NORTHWEST: (Period Nov. 8-25)

Weather was rather cool east of the Cascades, but mild west of the Cascades with no frost along the coast except at higher elevations. Rainfall over most of Oregon and in southern Washington has been above average, with heavy snowfall in the mountains which will insure a good spring moisture reserve. Bees are wintering well, with most colonies in good condition and ample winter stores. Sales f.o.b. shipping point, per lb., extracted eastern Oregon and Washington, Clover-Alfalfa in single 60s 15c, in 5-lb. pails or glass jars 19-22c. Beeswax, 41½c per lb. f.o.b. to beekeepers.

INTERMOUNTAIN REGION: (Per. Nov.9

At the close of this period colonies have been largely packed for winter. In most sections, with the exception of Idaho and Nevada, colonies are in very good condition with ample winter stores. Weather has been very favorable, although it was becoming more wintery at the end of the period. Moisture conditions are good in nearly all sections A very large proportion of the crop has already been shipped to cooperatives or sold to packers and local consumers. Demand continues active in nearly all sections. Sales f.o.b. shipping point, per lb. extracted Clover-Alfalfa in case to ton lots mostly 12c, some high as 13½c, in single 60s 14½-15c, mostly 15c; in 5-lb. pails and glass jars few sales 19 1-3c Section comb, Clover-Alfalfa few sales No. 1 $7.20 per case of 24 sections. Beeswax, few sales 41½c per lb. f.o.b. beekeepers.

SOUTHWESTERN AREA:

Northeast Texas. The weather during this period was unseasonably cold with some heavy freezes. There has been little rain during this period, but plants are in unusually good condition. Huban clover and also both yellow and white sweet clover are more plentiful than they have been for a number of years. Colonies are mostly in very good condition with ample winter stores.

EAST TEXAS. In this section the flow from asters was good with some surplus being taken from yards in favorable locations. Most colonies have heavy winter stores but many are weak in bees and brood.

SOUTHEAST TEXAS: Bees on aster ranges are in very good condition for winter with plenty of young bees and ample stores. In the broomweed ranges some honey was gathered but in most cases not enough to carry bees through to the spring flow so that some feeding may be necessary. All bloom has now ceased in this area, with nothing more in prospect before late January or early February.

SOUTHWEST and WEST TEXAS. Frost killed all late bloom during this period. The section is generally very dry and considerable additional rainfall is needed to assure good plant conditions for next season. Bees are generally in good condition. Considerable fall honey was gathered so that most colonies have ample winter stores.

ARKANSAS. Honey plants are in normal condition for this season, while bees are in somewhat better than average condition as a result of the late fall flow. To the end of this period large areas of the State had had no killing frost.

PLAINS AREA:

Red River Valley of Minnesota and North Dakota. Bees have mostly been packed for winter and are in good condition. Honey plants are in fairly good condition, with the clover acreage for 1946 apparently slightly larger than in 1945. Snowfall has been rather light to date, but the total precipitation for the fall is about normal. Demand for honey continues good at ceiling prices.

IOWA. In western Iowa the weather was very moderate during this period with no rain or snow. In portions of central Iowa a snow and sleet storm struck on November 21. In all sections the ground is rather dry and additional moisture is needed before winter. Practically all outdoor wintered bees have packed and cellar wintered bees are rapidly being moved indoors. A few beekeepers still have a few loads of bees to be taken south for the winter. Colonies are in the best condition in a number of years, with very heavy winter stores where the hives have not been extracted too closely. Demand for honey continues heavy with practically everything including capping melter honey at ceiling prices.

SUMMARY

Bees are now inactive in all sections of the country except a few extreme southern locations. Extracting has been practically completed and bees have been prepared for winter with the exception of scattered beekeepers who may still have a portion of their colonies to pack. Weather has continued very favorable for both bees and plants. Abundant moisture has fallen in all sections except portions of the Plains Area and Southwest. The first snows fell in the northern States during the latter part of November but in most cases have not been unusually heavy. Neither have severely cold temperatures prevailed in any section.

A very high proportion of the honey crop has already moved out of beekeepers' hands. Many packers are unable to meet current orders and do not expect to have sufficient domestic honey to serve their regular customers until new honey comes on the market. Most sales of honey are still being reported at the basic ceiling of 12c per lb. in case to ton lots or carlots and 15c per lb. in single 60s, although reports come in from various sections of premiums being paid on various size containers.

The Office of Priee Administration issued Amendment 2 to Revised Maximum Price Regulation 275 to become effective November 28. This Amendment defined in detail chunk honey, comb honey, cut comb honey, and extracted honey. Under this amendment chunk or bulk comb honey is considered as comb honey surrounded by or immersed in liquid extracted honey in a ratio of 40 percent or more comb honey to 60 percent or less liquid extracted honey. Any combination of less than 40 percent of comb honey with extracted honey shall be considered as extracted and priced accordingly. Copies of this Amendment may be obtained from the Office of Price Administration, Washington 25, D. C.

Monthly Report of Honey Producers

Early in December, 1945, we sent the following questions to honey producers:1. What per cent of the honey produced in your locality has already left the hands of the producers? Give answer in per cent. 2. At what price has honey been sold or contracted for, if any, in large lots, (carload or less) in your locality during the past month for (a) Extracted honey, per pound? (b) Comb honey, fancy and No. 1, per case? 3. What are prices when sold to grocers in case lots of (a) extracted honey in 5-lb. pails, or other retail packages in terms of 5-lb. pails? (b) Comb honey, fancy and No. 1 per case? 4. What is the retail price to consumers in your locality of (a) extracted honey in 5-lb. pails or other retail packages in terms of 5-lb. pails? (b) comb honey, fancy and No. 1, per section? 5. How is honey now moving on the market in your locality? Give answer in one word, as slow, fair or rapid. 6. How does the number of colonies to be wintered in your locality compare with that of last year? Give answer in per cent. 7. What is your estimate of prospects for normal honey crop in 1946, considering the present condition of the bees and the honey plants? Give answer in per cent of average crop for your locality. The answers received are tabulated as follows:

State	Name	(1) Pct. Sold	(2) Lg. Lots Ex.	(2) Lg. Lots Cb.	(3) To Grocers Ex.	(3) To Grocers Cb.	(4) To Retail's Ex.	(4) To Retail's Cb.	(5) Move ment	(6) Colonies Wintered	(7) 1946 Prospects
B.C	W. H. Trumbull	100							Rapid	97	100
S-Cal.	L. L. Andrews	99						.50	Fair	90	50
SE-Colo.	O. E. Adcock	100	.12					.40	Fair	100	100
E-Conn.	Allen Latham	30						.47	Rapid	90	
S-Fla.	C. C. Cook	100	.11½						Rapid	110	110
C-Fla.	Harry Hewitt	100							Rapid	100	100
S-Ills.	C. E. Killion	100						.44	Rapid	100	100
NC-Ind.	T. C. Johnson	95							Rapid	100	100
NW-Ind.	E. S. Miller	90							Rapid	100	100
W-Iowa	E. G. Brown	95	.12						Rapid	110	100
N-Mich.	I. D. Bartlett	90							Fair	125	110
E-Mich.	L. S. Griggs	90							Fair	90	75
S-Mich.	Floyd Markham		.12					.50	Rapid	100	100
C-Mich.	E. Townsend	100								90	100
SW-Minn.	L.A.Syverud	60							Fair	95	90
W-Minn.	B. Morehouse	90							Rapid	90	80
S-Minn.	J. F. Garner	100							Fair	110	75
C-Neb.	J. H. Wagner	50						.29	Fair	200	100
W-Nev.	Geo. Schweis	75	.12					.40	Fair	75	100
W-N.	M. C. Baltzley	25	.15						Fair	90	70
W-N. Y.	Adams - Myers	99.9						.40	Rapid	80	100
NW-N.Y.	G. B. Howe	75	.12					.45	Fair	100	100
C-N.Y.	F. W. Lesser	90							Rapid	90	125
NW-N.C.	C.Baumgarner									75	75
SE-N.C.	W. J. Martin	90	.12						Fair	100	100
C-Ohio	R. D. Hiatt	100	.12						Rapid	100	100
NC-Okla.	C. F. Stiles	75							Fair	100	95
C-Pa.	Harry Beaver	90							Rapid	95	
SE-Pa.	D. C. Gilham	40						.35	Fair	100	
C-Tenn.	J. Buchanan	95							Fair	100	100
E-Tenn.	W. L. Walling	100							Rapid	110	100
C-Tex.	T. A. Bowden	95							Rapid	100	90
S-Tex.	C. G. Mayes		.15							80	Fair
W-Utah	Wm. Moran	80	.12						Fair	100	90
S-Va.	T. C. Asher	100							Rapid	95	90
S-Va.	L. N. Gravely								Rapid	80	70
N-W.Va.	W. C. Griffith	100							Slow	50	50

KELLEY—"The Bee Man"

Tin Pails

We again have a large stock of tin pails, cans and glass jars, as listed below, for quick shipment from Paducah.

CARTON 50—Five Pound Pails—Wt. 26 lbs. .....Price $3.15
CARTON 50—Ten Pound Pails—Wt. 40 lbs. .....Price $4.85
CARTON 16—Sixty Pound Cans (2½ in opening) .....Price $5.40
Wt. 54 lbs.

GLASS

16-Oz. Economy Jars—Ctn. of 24—11 lbs. .....Price $0.70
32-Oz. Economy Jars—Ctn. of 12—12 lbs. .....Price 0.42
5-Lb. Economy Jars—Ctn. 6 ea. wt. 10 lbs. 12 Ctns. $5.00 24 Ctns. 9.90

5% discount from above prices on orders of over $50.00 at one time!

THE WALTER T. KELLEY CO.
Paducah, Ky.

NOTICE

Write for prices for having your wax made up or outright purchase of

SCHMIDT'S
Economy Foundation

Not excelled for quality strength and workmanship

Satisfaction Unconditionally Guaranteed

Oscar H. Schmidt & Sons
Rt. 4 Bay City, Mich.

LOTZ SECTIONS
and
Bee Supplies

Order sections and supplies early to avoid disappointments due to present day uncertainty of deliveries and shortages.

•

Sections, Hive Bodies, Frames, Foundation, Containers and other Bee Supplies of the finest quality.

AUGUST LOTZ COMPANY

Manufacturers and jobbers of Bee Supplies
Boyd - Wisconsin

BE PREPARED FOR THE 1946 SEASON. BUY YOUR SUPPLIES NOW! ! PROMPT SHIPMENT!

Because of shortages in 1945, many beekeepers were disappointed on delivery of supplies. Don't let that happen to you in 1946—ORDER NOW WHILE SUPPLIES ARE AVAILABLE.

No. 14 4-fr. Non-Reversible Honey Extractor (hand power)		$14.75
10-fr. size Wire Queen Excluders, wood bound. 5 or more	each	80c
Wire Face Bee Veils	each	80c
Bee Escapes	each	12c
Smokers 4x7"	each	$1.00
2" Hive Staples (for moving bees)	pound	20c
5-10-fr. 1 story Metal Covered Hives		$14.75
100 Hoffman Brood frames	per 100	$5.05
1-lb. glass honey jars, pack 2 doz.	per case	$1.00
2-lb. glass honey jars, packed 1 doz.	per case	.90
5-lb. glass honey jars, packed ½ doz.	per case	.55
10-lb. Friction Top Honey Pails, packed 50	per case	5.00
5-lb. Friction Top Honey Pails, packed 50	per case	3.75
Bee Gloves	per pair	.75

COMB FOUNDATION

25-lb. lots Thin Surplus (following sizes)
3⅞ x 16 4½ x 16¾ 4⅛ x 17¼ 3 11/16 x 14¼ $19.75
25-lb. lots "Hercules" WIRED brood 8 x 16¾ 8½ x 16¾ $18.50
25-lb. lots "Hercules" plain brood $17.50
Brood foundation sizes 8 x 16¾ or 8⅛ x 16½

HAVE YOU TRIED OUR "HERCULES" WIRED "IRONSIDES" FOUNDATION? WITHOUT A DOUBT THE BEST FOUNDATION ON THE MARKET. DON'T TAKE OUR WORD. TRY IT. SEE FOR YOURSELF.
Size 8½ x 16½ only.
10 Sheets, $1.35; 50 Sheets, $6.50; 100 Sheets, $12.50.
Terms: Cash f.o.b. Cincinnati

We WILL BUY YOUR HONEY AND BEESWAX AND PAY THE CEILING PRICES
NO LOT TOO LARGE OR TOO SMALL. WRITE US.
We also render wax from your old comb and cappings and work your wax into comb foundation at a saving in price. SEND FOR OUR MONEY SAVING PRICE LIST.

THE FRED W. MUTH COMPANY

229 Walnut Street Cincinnati 2, Ohio

The Beekeepers' Magazine
(Published by Elmer Carroll)
Spicy - Up-to-date - Practical
$1.50 a year 3 yrs. for $3.00
Rt. 5, Box 181 Lansing, Mich.

Australian Beekeeping News
The Leading Bee Journal of the Southern Hemisphere is the "AUSTRALASIAN BEEKEEPER"
Subscription 5 shillings per year. Start any time. Inquire for International Money Order for 5 shillings (Australian) at your Post Office.
Write now to the Editor, P. O. Box 20
West Maitland New South Wales
Australia

The Hubbard Apiaries

WRITE FOR FREE CATALOG

Quality Bee Supplies. Factory Prices
Prompt Shipment from Stock
Satisfaction Guaranteed

THE HUBBARD APIARIES

Manufacturers of Bee Supplies

ONSTED, MICHIGAN

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The A. I. Root Company, Publishers, Medina, Ohio